The Role of an Entrepreneurship Education in Developing Student's Entrepreneurial Competencies: A Case Study of an Almaty Private University

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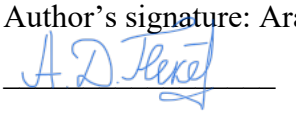

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Graduate School of Education

53 Kabanbay Batyr Ave.
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October 2020

Dear Aray Tlekeyeva,

This letter now confirms that your research project entitled *The role of an entrepreneurship education in developing student's entrepreneurship competences: a case study of an Almaty private university* has been approved by the Graduate School of Education Ethics Committee of Nazarbayev University.

You may proceed with contacting your preferred research site and commencing your participant recruitment strategy.

Yours sincerely,

Aisi Li

On behalf of Zumrad Kataeva
Chair of the GSE Ethics Committee
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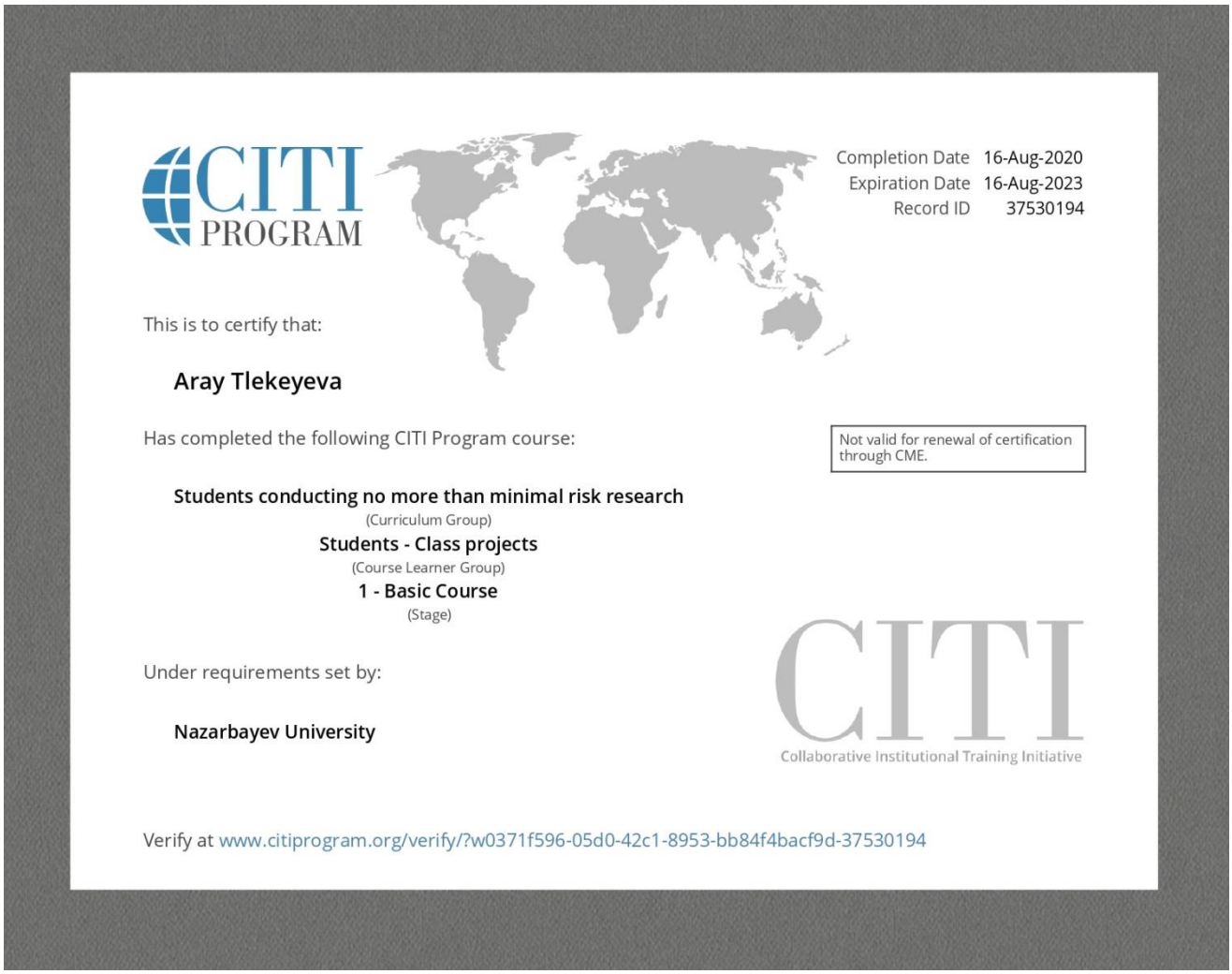

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Abstract

The Role of an Entrepreneurship Education in Developing Student's Entrepreneurial Competencies: a Case Study of an Almaty Private University

In the context of Kazakhstan, research studies related to the topic of entrepreneurship education mainly focus on the regulations and documents rather than grounded research on the results of made implementations. To fill this gap, the current research explores the case of seven undergraduate students enrolled in the elective course of entrepreneurship offered at one of Almaty private universities. In this case, the research applied a qualitative research method and recruited students majoring in Information System by snowball sampling. The study used online interviews as data collection tools and attempted to understand any significant change in students' entrepreneurship skills after completing this course. After analyzing the course effectiveness, the research made recommendations to improve some aspects of the course curriculum that may hinder the development of entrepreneurial skills. Based on research findings, most students underlined that their intention to become an entrepreneur remains significant, reflected the positive impact of the course on their entrepreneurship skills, and highlighted that entrepreneurship course was scaffolding their experiences from previous courses. Particularly, students' feedback on the most valuable practices emphasized the role of teamwork and project development. In conclusion, the research suggested to make more focus on the course curriculum, the balance between theoretical and practical content and highlighted the need for a qualified instructor.

Keywords: entrepreneurship education, entrepreneurship competencies, undergraduate students, the impact of COVID-19, online learning.

Абстракт

Студенттің Кәсіпкерлік Құзыреттілігін Дамытудағы Кәсіпкерлік Білімнің Рөлі: Алматы Жекеменшік Университетінің Кейсін Зерттеу

Қазақстан жағдайында кәсіпкерлікті оқыту тақырыбына қатысты ғылыми зерттеулер негізінен нормативтік құжаттар мен заңдарға назар аударады, ал жүзеге асырылған нәтижелер туралы негізделген зерттеулерге шектеулі. Осы олқылықтың орнын толтыру үшін бұл зерттеу Алматының жеке университеттерінің бірінде ұсынылған кәсіпкерлік элективті курсына түскен жеті студенттің жағдайын зерттейді. Зерттеудің мақсаты кәсіпкерлік білім берудің студенттердің кәсіпкерлік құзыреттіліктеріне әсерін және курсты аяқтағаннан кейін олардың дағдыларындағы кез-келген өзгерістерді түсіну болды. Бұл жағдайда зерттеулер сапалы зерттеу әдісін қолданып, Ақпараттық жүйе мамандығының студенттерін тізбек-анықтамалық іріктеу арқылы қарастырды. Зерттеулер деректерді жинау құралы ретінде онлайн сұхбаттарды қолданды және осы курсты аяқтағаннан кейін студенттердің кәсіпкерлік қабілеттеріндегі кез-келген елеулі өзгерістерді түсінуді мақсат етті. Курстың тиімділігін талдай отырып, зерттеу барысында кәсіпкерлік дағдыларды дамытуға кедергі болатын кейбір аспектілерді жақсарту бойынша ұсыныстар жасалды. Зерттеу нәтижелері студенттердің көпшілігі курстың кәсіпкерлік қабілеттер, алдыңғы курстардан алған тәжірибе мен дағдыларын дамытуға оң әсері болғанын көрсетті және олардың болашақта кәсіпкер болуға деген ниеттері курсқа дейінгі деңгейден өзгермегенінін көрсетеді. Сондай-ақ, студенттердің ең пайдалы тәжірибелер туралы пікірлері жобаны дамыту және топтық жұмыстың рөлін ерекше атап өтті. Қорытындылай келе, зерттеу курстық бағдарламаға, теориялық және

практикалық мазмұн арасындағы тепе-теңдікті сақтау пен оқытушының біліктіне көбірек назар аудару қажеттілігін көрсетті.

Түйінді сөздер: кәсіпкерлік білім, кәсіпкерлік құзыреттіліктер, студенттер, COVID-19 әсері, онлайн-оқыту.

Абстракт

Роль Предпринимательского Образования в Развитии Предпринимательских Компетенций Студентов: Пример Алматинского Частного Университета

В контексте Казахстана исследования, связанные с темой обучения предпринимательству, в основном сосредоточены на нормативных актах и документах, а не на обоснованных исследованиях результатов осуществленных внедрений. Чтобы восполнить этот пробел, в настоящем исследовании рассматривается случай семи студентов бакалавриата, зачисленных на элективный курс предпринимательства, предлагаемый в одном из частных университетов Алматы. Целью исследования было понять влияние обучения предпринимательству на предпринимательские компетенции студентов и любые изменения в их навыках после завершения курса. В данной научной работе применялся качественный метод исследования и рассматривались студенты, специализирующиеся на программе “Информационные системы”. Студенты были привлечены к исследованию путем цепной выборки и онлайн-интервью использовались в качестве инструмента для сбора данных. Согласно результатам исследования, большинство студентов отметили положительное влияние курса на их предпринимательские навыки, на их опыт, полученный на предыдущих курсах и их намерения продолжать развиваться как предприниматель остается значительным. В частности, отзывы студентов о наиболее ценных практиках подчеркнули роль командной работы и развития проекта. Также, после анализа собранных данных были даны рекомендации по улучшению некоторых аспектов учебной программы курса, которые могут препятствовать развитию предпринимательских навыков. В заключение,

исследование показало, что больше внимания нужно уделить учебной методологии программы, в частности балансу между теоретическим и практическим содержанием, и подчеркивается необходимость в квалифицированных преподавателях.

Ключевые слова: предпринимательское образование, предпринимательские компетенции, студенты, влияние COVID-19, онлайн-обучение.

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Chapter 1. Introduction

In the technologically developing world, one of the main objectives of educational organizations is to prepare their students for challenges and conditions of the real world. In this sense, entrepreneurship education (EE) is recognized as one of the economy's drivers and powerful tools for preparing graduates to launch their ventures and create new workplaces. Particularly, this special education is believed to turn entrepreneurs' ideas into action by creating opportunities for idea implementation and improving their innovative performance (Cruz et al., 2009; Daud et al., 2011; Jones & English, 2004; Mitra, 2002). In this way, the increasing demand for people with an entrepreneurial mindset leads universities to transform their nature, structure and programs. However, despite the fact that many developing countries advocate the integration of EE into their core programs at all levels of educational institutions (Birch, 1979, cited in Valerio et al., 2014; Byun et al., 2018; Kim et al., 2017; Rehman & Elahi, 2012; Yu, 2018; Yu et al., 2017; Zhu et al., 2017), the basic objectives of entrepreneurship education have not yet been specified due to the complex and evolving nature of its teaching and learning approaches (Egerova et al., 2016; Ronstadt & Robert, 1984).

Like international experiences, some of the Kazakhstani secondary and higher education institutions have started implementing entrepreneurship courses into their curriculum. However, the review of available literature on this topic demonstrates that the Kazakhstani research studies mainly focus on the regulations and documents about entrepreneurship education rather than grounded research on the results of made implementations. Therefore,

this phenomenon raises the problem of the insufficient research on the real outcomes of the entrepreneurship courses in the Kazakhstani context.

To provide the background information necessary for navigating the reader, this chapter focuses on essential concepts and is divided into six sections. The first section reflects the historical development of entrepreneurship education, describing this concept from international and local perspectives. In the following sections, the readers are introduced to the problem statement, the purpose of the study, the research questions, and the research significance. Finally, the sixth section provides a summary of the main points and outlines the next chapter.

1.1. Background of Entrepreneurship Education Concept

In recent decades, the role of entrepreneurship has attracted growing interest from society. Early in the 20th century, Schrumputer (1934) defined entrepreneurship as a "prime mover" of economic and technological development (pp.131-132). Notably, it was perceived as a practice of reforming and revolutionizing old products, inventing a new product and materializing innovative ideas. Comparatively, in the 21st century, the concept of "entrepreneurship" has been changing from a "willingness to take risks" to an "innovative way of thinking, planning, and organizing" (Sharma, 2019; p.1). As a result, the prevalence of various definitions and unfixed boundaries of entrepreneurship is transforming and reflecting on the objectives of entrepreneurship education.

When defining entrepreneurship education, Lackéus (2015) clarifies that frequent use of two related terms, enterprise education and entrepreneurship education, may lead to people's

incorrect interpretation of the program's initial aim. He compares the definition from the UK and the US systems and notes that enterprise education focuses on personality and abilities, whereas entrepreneurship education attempts to train people to apply their knowledge to venture creation. As a result, Lackéus (2015) refers to Erkkila's (2000) unified concept of entrepreneurial education, which comprises the characteristics of both enterprise and entrepreneurship education. However, the recent work of Wei et al. (2019) defines entrepreneurship education as a valuable pathway aimed at developing the ability of entrepreneurs to manage and acquire resources, improving their competencies and personality, as well as building an integrated approach based on values of different systems and learning channels. Therefore, to prevent misunderstanding, this research study extensively refers to the term "entrepreneurship education" and focuses on the main constituents of enterprise, entrepreneurial, and entrepreneurship education.

For the first time, the concept of entrepreneurship education was introduced in the United States when Harvard university designed its first MBA entrepreneurship course in the late 1940s. For instance, Yu (2018) presents the statistics where 1,500 US universities and colleges offered entrepreneurship education to their undergraduate students in 2001. Notably, the integration of entrepreneurship into the educational ecosystem demonstrated the value of a holistic approach, which required the inclusion of all the components of building an enterprise (business model, teaching philosophy, curriculum, educational content, teacher training, infrastructure, culture, and networks) (Yu, 2018). In addition to formal university education, Tayauova and Bektas (2018) highlighted that the role of local innovation hubs such as Silicon Valley, Research Triangle Park (NC), Boston Road 128 Technology Park, and the Triple Helix

model founded on a partnership between academia, business, and government, that contributed to the growth of American entrepreneurship research and education. The main peculiarities of these organizations were to enhance university programs by providing mentoring pools, networking events, technology parks, and incubators for the entrepreneurs who would like to acquire more practice rather than theory.

Interestingly, in the USA, entrepreneurship education was initiated by the HEIs, while in all other countries, it was led by the government. In Europe, politicians began investing in the entrepreneurship program and incorporated it into the secondary and high school curriculum (European Commission, 2006). The experience of European countries revealed a number of available programs and centers aimed to promote innovative thinking and entrepreneurial abilities. For instance, Tayauova and Bektas (2018) highlighted the example of the UK government, which established various programs such as the "Young Enterprise Fiver Challenge" program, National Center for Entrepreneurship in Education, the Enterprise Leadership Development Program for high school leaders, the International Entrepreneurship Teachers Program to connect students, educators, and professionals on one business site. In addition, examples of Germany, Sweden, Ireland, Finland, and Russia emphasized the role of the "Triple Helix" model, universities' collaboration, governmental programs, technoparks, and venture development (Tayauova & Bektas, 2018).

Compared to examples from the United States and Europe, the special programs aimed to train future entrepreneurs were new to the Asian countries. Notably, entrepreneurship education received growing interest from their higher education institutions at the beginning of the 21st century. Observing the successful outcomes of this program in the Western

educational systems, several Asian countries, namely China, South Korea, Taiwan and Singapore, have integrated entrepreneurship education in local universities and have demonstrated government-level support in its development and promotion (Byun et al., 2018; Rehman & Elahi, 2012; Yu et al., 2017; Zhu et al., 2017). Specifically, South Korean and Chinese entrepreneurship training programs aimed to train experts with good practical skills by offering governmental, political, and financial support. In South Korea, the program seeks to nurture startup experts, and therefore, it has been provided for graduate students who are engaged in practical training of venture development and construction of a human network (Byun et al., 2018). In China, a pilot program of entrepreneurship education was launched by the Ministry of Education and offered at nine local universities in 2002 (Liu et al., 2014).

Consequently, in 2015, China initiated the "Mass Entrepreneurship and Innovation" campaign (MEI), which received remarkable political and material support. The Chinese government needed investments in entrepreneurship ecosystems for MEI campaigns and effectively guided entrepreneurial projects to implement the MEI campaign successfully and avoid a massive waste of entrepreneurship resources (Innovation and Entrepreneurship Weekly, 2017, as cited in Yu, 2018). Thus, these investments have contributed to the rapid technological development in China in less than 20 years. Comparatively, the Indian government began sponsoring entrepreneurship programs earlier in the mid-20th century. When focusing on the progress of Indian venture development, the research of Rehman and Elahi (2012) indicated the integration of "industry associations, non-governmental organizations (NGOs), consultants, and voluntary organizations" into the country's entrepreneurship ecosystem as the next level of support for entrepreneurship education (p.7).

Thus, the Indian economic development strategy emphasized the importance of the transition from agriculture to the information technology sector and the promotion of self-employment and the creation of small and medium-sized businesses (SMEs).

The analysis of international experience revealed the growing attention on the integration of entrepreneurship education into all levels of educational organizations. Similar to global trends, in the national strategy Kazakhstan-2050, Nazarbayev (2013) emphasized the role of entrepreneurship education in fostering economic growth and self-employment. Mainly, the strategy addressed the conditions for increasing the number of entrepreneurs, who will be drivers of socio-economic development of the country and instructed local authorities to cultivate entrepreneurial mindset and abilities by designing learning environments, creating business incubators, hubs, and integrating the Triple helix model. The need for stimulating the economic growth and self-employment requires trained individuals ready for the uncertain nature of the changing world. For this aim, Order No.115 of the Minister of Education and Science (2013) introduced a curriculum model for the course “Fundamentals of Entrepreneurship and Business” developed for high school students in grades 10-11. This program curriculum offered basic knowledge of entrepreneurship, economics, management, and marketing; instilled responsibility for their choice and the formation of entrepreneurial thinking; created a base of practical skills for future independent activity in current market conditions. However, the basic knowledge acquired at the school level needs to be improved in a more professional environment. Therefore, the next initiative aimed to transform classical universities into entrepreneurial ones and train multifaceted entrepreneurs. In this sense, several Kazakhstani universities, namely Nazarbayev University, Almaty Management

University, Pavlodar National University named after S. Toraigyrov, Taraz Innovative Humanitarian University, South Kazakhstan State University, Karaganda State Technical University, Karaganda State Medical University, and others, have already been changing their structure and implementing brand-new strategies of development (Tayauova & Bektas, 2018). In addition, the state program Digital Kazakhstan was introduced in 2017, and its main objectives included supporting startup development and venture creation among youth, the creation of IT hubs and technoparks within the walls of universities, development of digital infrastructure; and innovation ecosystem (Resolution of the Government, 2017). The government also provided state-level support and implemented programs of the "National Agency for Technological Development" Joint Stock Company (JSC NATR) and "Business Road Map 2020". These programs assembled the development of institutions, technoparks, business incubators, and business support centres and cooperated with non-governmental and international organizations (Tayauova & Bektas, 2018). This means that all listed measures were taken to stimulate the diffusion of entrepreneurship education over Kazakhstan and encourage technological transfer.

1.2. Statement of the Problem

The development of smart technologies is transforming the traditional market and requires competencies that can help to create new enterprises and startups (Kim et al., 2017). Due to the exceptional characteristics of new market trends, a positive relationship between entrepreneurial activity and economic growth was highlighted in an empirical study by Van Praag and Versloot (2007). In this sense, many schools and universities worldwide have

incorporated entrepreneurship program into their curricula, and international research has mainly focused on the specifics of learning methodology and the impact of this special education on people's motivation and entrepreneurial intentions. Despite this, Valerio et al. (2014) emphasize that while entrepreneurship education programs and courses have been steadily evolving, knowledge about them and their impact remain thin.

In the Kazakhstani context, the analysis of local studies on the introduction of entrepreneurship education indicate that existing research papers mostly provide an overview of government resolutions, state regulations, and a description of existing infrastructures. Some researchers agreed that entrepreneurship education and the transformation of universities from a classical to an entrepreneurial structure encounter the significant challenges like a lack of: information about the fundamentals of developing entrepreneurial and creative thinking, facilities for creative collaboration, qualified instructors with relevant knowledge and competencies of enterprise development, university autonomy, trained administrators who know how to negotiate with developers, and understanding of research and development (R&D) commercialization (Kozhakhmetov, 2016; Tayauova & Bektash, 2014; Yar-Mukhamedova et al., 2017).

As known from the international experience of implementing Triple Helix, successful entrepreneurship education outcomes require the active involvement of businesses in the learning process. However, Kozhakhmetov (2016) emphasiozed that Kazakhstani companies show a low level of support for entrepreneurship education. Only a few Kazakhstani companies support university students' start-up initiatives, which consequently lead to a shortage of qualified experts with sufficient knowledge of venture capital development.

Moreover, the tendency of prospective students' reorganization towards technological specialties (Kozhakhmetov & Kurinkeeva, 2012, as cited in Kurmanov et al., 2015) and deficiency of practical components in the local entrepreneurship courses demonstrate that little is known about its impact on students' entrepreneurial competencies. Thus, insufficiency of grounded research on this topic raise the need for studies on the real effects and results of the entrepreneurship courses in the Kazakhstani context.

1.3. Purpose of the Study

This qualitative case study aims to understand the impact of entrepreneurship education in the form of elective course on undergraduate students' entrepreneurship competencies and any change in their skills after completing the course. Mainly, it analyzes the impact of the instructor's role, teaching methodology, and learning format on students' perception of their progress as entrepreneurs. To this extent, the research mainly focuses on the students' self-reflections about the effectiveness of course components on developing specific competencies.

1.4. The Research Questions

This study aims to contribute to the knowledge base of entrepreneurship education, with a particular focus on the Kazakhstani university's case of the entrepreneurship course. In this sense, the research attempts to answer the following research questions:

1. How does entrepreneurship education develop students' entrepreneurship skills?
2. Is there any significant change in students' entrepreneurship skills after completing this course?

1.5. Significance of the Study

The context of this study is relatively unique since entrepreneurship education programs are not common cases at Kazakhstani higher educational organizations. Addressing the issue of Kazakhstani entrepreneurship education can significantly contribute to filling the gap in the literature and the development of this field as an independent discipline. Since the research focuses on the course's specific outcome (competencies), the research findings provide important insights for policymakers, university leaders, faculty, and students. In particular, university leaders can consider the improvement of course components by offering university support, while course instructors have an opportunity to monitor the effectiveness of their curriculum. Moreover, the research results and conclusion can provide useful information for students interested in selecting this course and choosing the career path of an entrepreneur.

1.6. Outline of the Research

It is essential to provide an outline of the key elements before moving on to the specifics of each chapter. In this sense, the first chapter of this thesis provides background information on the research topic and the research problem identified by reviewing relevant literature. The chapter then defines core questions that must be answered in order to accomplish the research purpose. Following that, the literature review chapter examines recent research on entrepreneurship education to identify gaps that the current research attempts to fill. This chapter promotes a better understanding of the key characteristics related to entrepreneurship education. Next, the methodology chapter justifies the chosen research methodology and data collection tools by offering detailed information about the research approach and data

collection procedure. Moreover, the chapter presents a rationale for choosing a particular research site, participants, sampling methods and ensures that the researcher followed main ethical principles.

In the findings chapter, the reader is introduced to raw data collected due to online interviews. It contains students' reflections on course components such as course content, teaching methodology, teacher's role, the role of COVID-19 and course delivery format. The discussion section explores the impact of these course elements on students' competencies based on the students' reflections. Notably, the chapter interprets the findings by referring to the relevant literature and giving comments on the analyzed data. Finally, the conclusion chapter provides a precise summary of the overall research by revisiting the research questions and research objectives. In addition, the chapter highlights the limitations faced during data collection and analysis and offers suggestions for further research.

1.7. Summary

This chapter explained the rationale behind considering the impact of entrepreneurship education as a research topic. It also demonstrated how a deficiency of research on the program outcomes in the Kazakhstani context had made way for this timely study, highlighting entrepreneurship courses as an essential part of training future entrepreneurs. The chapter identified the research questions that directed this study, such as how entrepreneurship education develops students' entrepreneurship skills and any significant change in students' entrepreneurship skills after completing this program. Finally, the chapter explained that the study addresses students' learning experience within the course of entrepreneurship and the

research results are significant for policymakers, university leaders, and instructors involved in the development of this program.

The next chapter provides a critical analysis of the literature on entrepreneurship education and entrepreneurship competencies. The literature review part gives a firm theoretical basis to this study and focuses on critical concepts, previous findings, and some debates in the field. It also discusses the drawbacks and advantages of online education and the role of a pandemic that may influence students' overall perceptions of the course.

Chapter 2. Literature Review

2.1. Introduction

The study intends to understand how the entrepreneurship course impacts undergraduate IT students' entrepreneurship skills at Almaty private universities. To this extent, the literature review explores the global experience in conducting entrepreneurship education in higher education institutions, primarily in the USA, some European and Asian countries. As a result, the review seeks to connect the previous research to the current Kazakhstani situation and build a foundation for the conceptual framework and research methodology.

The literature review is divided into several sections to navigate the reader through essential concepts. The first section provides a brief introduction to the chapter, while the second section starts with an extensive definition of entrepreneurship education and presents the classification of entrepreneurship education. In the third section, the researcher explores previous studies and concentrates on the peculiarities of entrepreneurship course methodology. In the fourth section, the influence of COVID-19 on the learning outcomes receives specific attention. Next, the section introduces the reader to the role of entrepreneurship education in developing students' entrepreneurial competencies. Further, the conceptual framework of current research displays critical concepts essential for answering research questions and interpreting the findings. Finally, the chapter concludes with a summary of the main points and provides an outline of the next chapter.

2.2. The Classification of Entrepreneurship Education

Although researchers' definitions of entrepreneurship education differ, all of them present some specific shared characteristics. For instance, entrepreneurship education is perceived as an interdisciplinary program that develops specific skills and knowledge necessary for leading an enterprise. Ratten and Jones (2020) emphasize that this discipline includes market opportunities to implement innovative technology solutions. In contrast, the OECD study "Entrepreneurship and Higher Education" defines entrepreneurship education as a combination of all activities to reinforce entrepreneurial mindset, attitudes, and skills, and a range of aspects such as idea generation, startup, growth, and innovation (Potter, 2008). Thus, entrepreneurship education attracted the public's interest because of its focus on practical skills, new ventures, commercialization aspects, and new business entities (Barr et al., 2009).

When analyzing characteristics of EE, it is necessary to promote a proper understanding of program fundamentals and purpose. Depending on the target audience's needs, Valerio et al. (2014) offer a classification of entrepreneurship education: entrepreneurship education and entrepreneurship training (ET). Accordingly, entrepreneurship education specifies the entry-level entrepreneurs, secondary education and higher education students, whereas entrepreneurship training focuses on more experienced practitioners. Thus, in the current study, the literature focuses on the course characteristics offered to the audience of entrepreneurship education, students of a higher education organization.

The vast majority of definitions describe the main objectives and the learning components necessary for the course program. Ghina et al. (2014) provided a systematic framework that demonstrated an interrelation between students, staff, and university to assure

the learning outcomes. Specifically, researchers highlighted the consideration of the following components in providing entrepreneurship education: program objectives, target audience, course methodology, and context (Ghina et al., 2014; Valerio et al., 2014). Therefore, the following sections will provide a more detailed inquiry into the learning components.

2.3. The Course Curriculum, Methodology, and Content

Entrepreneurship education is still undergoing conceptual transformations under the influence of technological development and the advancement of global networks (Zhu et al., 2017). However, owing to the ever-changing nature of entrepreneurship globally and the insufficiency of research on its teaching methods in Kazakhstani context, specific program content and curriculum models are still in progress.

Universities globally are rethinking and restructuring program curriculum to meet the needs of the modern world. Particularly, Streeter and Jaquette (2002) emphasized the transformations in the models of university-wide entrepreneurship, where they observed the transition of entrepreneurship education across the curriculum in nearly 75% of the surveyed schools. In this sense, it is essential to note that the shift in the programs' belonging to the fields was related to universities' transformation to corporate entrepreneurship hubs, making them the center for innovations in several directions.

The choice of teaching approach varies in each educational organization, ranging from conventional theory-based learning to process-oriented or more action-oriented learning styles (Garbuioet al., 2018; Neck & Greene, 2011; Pittaway & Edwards, 2012, as cited in Lynch et al., 2019). For instance, Solomon et al. (as cited in Knotts, 2011) distinguish entrepreneurship

education from traditional business education in teaching methods. According to Potter (2008), the curriculum of entrepreneurship education comprises “five E’s of learning” that combine “environment, economy, entrepreneurs, enterprise, entreplexity” into the learning context (p. 79-80). Giving an example of Intotalo, Finland, the researcher highlighted the role of interactive learning and network establishment through learning by doing. Therefore, it is essential to identify the teacher’s role in the learning process when discussing the teaching methodology. To this extent, Egerova et al. (2016) emphasized that mentoring or coaching from people with business experience should be a fundamental element in all entrepreneurship training. The teaching methodology of entrepreneurship needs to be student-centered, and teachers should play the role of facilitator and adviser. However, it is not sufficient to bring entrepreneurs into the classroom; students should be directly involved in enterprise projects. Moreover, the instructor needs to apply a student-centered approach and provide learners with autonomy through “collaborative activities, goal-driven tasks, intellectual discovery, activities that heighten thinking and provide practice in learning skills” (Jones & English, 2004, p.12).

The core curriculum of this program usually combines theoretical knowledge and practical tasks that enhance students’ entrepreneurship experience. In this sense, Ahmed et al. (2020) emphasized the role of course content (e.g., lecture materials, guest speakers, online tools, teaching methods, and others) and course goals (e.g., teaching introductory concepts and theory) in building relevant entrepreneurship skills. According to Fleck and Teckchandani (2019), the Experiential Entrepreneurship Curriculum (EXEC) is an 8-15-week program that incorporates main principles and support strategies offered by many introductory entrepreneurship courses. A program curriculum typically consists of hands-on sessions with

"detailed lesson plans, readings, activities, and assessments" and requires teaching authentic entrepreneurial concepts such as innovation and brainstorming, customer feedback, prototyping, and business viability (Fleck & Teckchandani, 2019; pp. 1-2). Based on a cyclical learning paradigm, experiential learning attempts to present a learning process through experience and transform it into knowledge (Kolb, 1984). Thus, researchers have found that experiential teaching and learning can help students develop their entrepreneurship performance by building a foundation on motivation, entrepreneurship skills, and business skills (Sharma, 2019).

The program's success in attaining its objectives depends on a firm emphasis on program components that will affect students' capabilities. Notably, researchers identified many strategies and practices that could help to improve the associated entrepreneurship skills. In this sense, one of the previous studies mentioned that entrepreneurship students enhance their knowledge by "writing business plans, launching and managing venture startups, and providing consulting services to prospective business owners" (Knotts, 2011, p. 26) rather than just receiving theoretical information on the business. In this sense, several researchers noted that experiential activities enhance learning and develop students' soft skills such as time management, decision-making, problem-solving, interpersonal relations, and communication skills (Peterson & Albertson, 2006; Warren, 1997). Thus, tactile experience tends to stimulate both emotions and memory, increasing students' total immersion in the process of learning.

2.4. The Influence of COVID-19 on Course Delivery

On March 11, 2019, the World Health Organization (WHO) declared COVID-19 as a global pandemic, which has a disruptive impact on all spheres of people's lives, including education. In order to minimize the spread and impact of COVID-2019, secondary and higher education organizations globally faced a forced transition to an online learning format. Due to the COVID-19 emergency, students were engaged in blended and asynchronous learning that combined online and face-to-face components. In this regard, some researchers emphasized some challenges related to this transition (Ratten, 2020; Ratten & Jones, 2020). Notably, Ratten (2020) highlighted the challenge of minimizing the gap between online education and experiential learning. To this extent, the researcher suggested universities devote more resources to improving their online teaching methods and materials by balancing experiential learning content with virtual reality. In support of this suggestion, Lamine (2020) recommended that incorporating technology, virtual reality, and e-skills into an entrepreneurship training program would facilitate its effectiveness, while other researchers strongly advised such activities as developing a business plan, calculating risks, problem-solving, meeting online with local and foreign guest speakers.

Ratten (2020) believes that due to the nature of entrepreneurship education aimed at improving learners' practical and real-world experience, the limitations associated with COVID-19 pose some challenges in adopting conventional teaching methods. Despite this, several researchers, including Ratten (2020), emphasize that the global pandemic was a unique and transitional opportunity to test whether an online format is effective and if the peached techniques as readiness to uncertainty can be effectively applied to this specific case (Liguori

& Winkler, 2020; Ratten & Jones, 2020). When discussing the impact of online format on entrepreneurship education, Liguori and Winkler (2020) argue that two issues emerge: the effectiveness of online learning in entrepreneurship education and the effectiveness of teaching entrepreneurship education online. Moreover, Liguori and Winkler (2020) suggest the work of Morris and Liguori (2016) to answer the question on the content of online entrepreneurship education. They offer three categories of skills that need to be included in the program: "business basics, entrepreneurship basics, and entrepreneurial mindset and competencies" (Morris & Liguori, 2016, p. xvii-xviii). Accordingly, university and faculty are needed to cultivate learners' theoretical awareness and authentic enterprise development skills in a supportive context.

2.5. The Relation between Entrepreneurship Education and Competencies

Researchers still argue about the role of nature and nurture in one's entrepreneurial qualities, as well as their interest and intention of developing enterprise. Notably, the newly adopted and dominant view believes that entrepreneurship is more about nurture; and any form of education can have rewarding results despite one's personality (Cooper et al., 1994; Fiet, 2001a; 2001b, as cited in Sullivan, 2011; Petridou & Glaveli, 2008). In this sense, the study of Ali (2020) indicates that 41 out of 48 respondents who participated in the poll survey agreed that entrepreneurship education changes people's behavioural patterns and abilities, while 45 indicated the demand for blended learning and practical components of the program curriculum. These results show that entrepreneurship education, which incorporates blended

learning and practical components, can nurture the specific skills identified as essential for entrepreneurs.

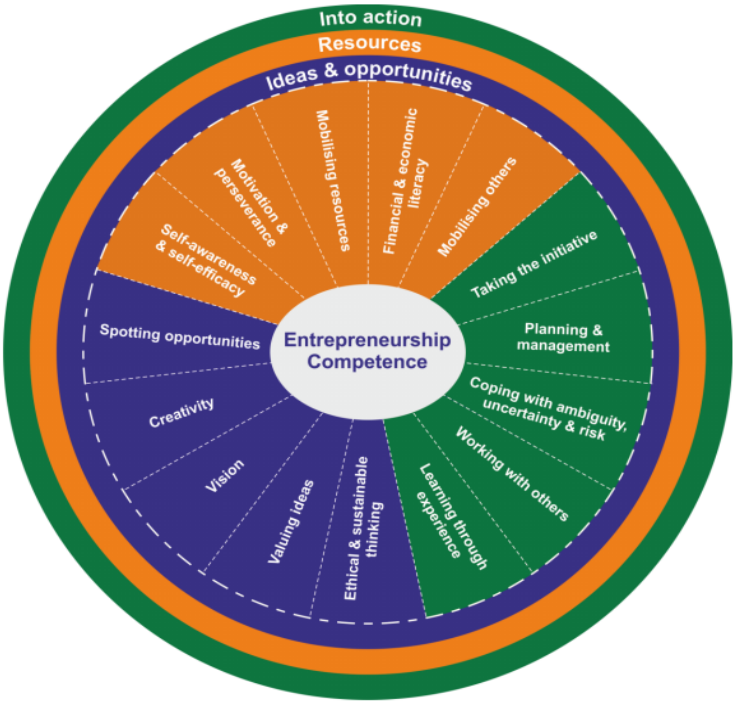
Before focusing more profoundly on core entrepreneurial competencies, it is necessary to establish the particular category of entrepreneurs. However, many scholars believe that all entrepreneurs share specific skills; and the categories of entrepreneurs vary depending on the context. For instance, Ronstadt (1984) distinguishes several types of entrepreneurs (independent entrepreneurs, acquiring entrepreneurs, corporate entrepreneurs, and others) and clarifies that this classification helps understand differences in various entrepreneurs' traits and functions. On the other hand, the classification offered by Valerio et al. (2014) illustrates that entrepreneurship education is provided for foundation level entrepreneurs (high school and university students), and this program usually builds basic knowledge and skills that any entrepreneur should possess. Moreover, Bacigalupo et al. (2016) offers four main levels of proficiency in entrepreneurship competencies: "foundation, intermediate, advanced and expert", each dividing into two sub-levels (p. 14). Thus, entrepreneurship education allows students to be exposed to different models and types of entrepreneurs and develop the necessary skills and traits.

Mainly, the connection of industry, university, and public sections transformed the knowledge about and the education in entrepreneurship, making universities consolidate and cultivate students' skills. In this sense, Dana suggested combining both hard and soft skills with particular emphasis on crisis management, "thinking, learning, personal development, business knowledge, and task-specific skills" (as cited in Ratten, 2020, p.757), while Din et al. (2016) offers the program curriculum that incorporates specific skills and critical procedures

practical for developing entrepreneurship education in their framework. Researchers highlighted business plan, risk-taking, self-efficacy, and need for achievement as the elements of entrepreneurship education (Din et al., 2016). Similarly, Bacigalupo et al. (2016) present the comprehensive framework that provides three areas and 15 entrepreneurship competencies necessary for developing an entrepreneurial mindset by receiving special education and gaining necessary knowledge. However, researchers highlight that this framework was not tested in an authentic setting and needs to be adapted according to the research context. Notably, when evaluating the impact of entrepreneurship education on students, the analysis of previous classifications of competencies indicated the development of the same entrepreneurial skills (Bacigalupo et al., 2016; Sharma, 2019). Thus, the EntreComp conceptual model includes the notable aspects of entrepreneurship education that combine the most common skills observed in the works of other researchers (see Figure 1).

Figure 1

Classification of core entrepreneurship competencies



Note. In their EntreComp conceptual model, Bacigalupo et al. (2016) classified the core competencies of entrepreneurs into three areas.

Schrumputer (2013) argues that only a small number of people can act confidently to overcome societal resistance to an idea or product, and these people combine particular abilities to achieve their final goal. For instance, Ronstadt (1984) highlighted perseverance as a critical element of an entrepreneur's character, emphasizing that entrepreneurs are people "free of intellectual boundaries, particularly academic ideas" (p. 4-5). Moreover, several researchers noted that resource accumulation and management (time, investment, ideas, and personnel) are some of the most relevant issues entrepreneurs need to consider when working on the multiple stages of venture development (Baker & Nelson, 2005). Therefore, in comparison to other fields, entrepreneurship requires practical skills necessary for solving authentic problems. Above mentioned researchers provided dozens of competencies as the main competencies of entrepreneurs; however, Robles and Zárraga-Rodríguez's exploratory research (2015) concluded that only 9 out of 20 competencies from the reviewed literature reached high consensus among experts from the field. The relevant competencies for entrepreneurship are risk assumption, initiative, responsibility, dynamism, problem-solving, search and analysis of information from orientation, change management, and quality of work (Robles & Zárraga-Rodríguez, 2015; p.831).

In terms of connection to the university disciplines, the researchers found that engineering students had significantly higher scores in creativity, ability to generate business ideas, and presentation skills after completing an entrepreneurship course (Bilán et al., 2005, as cited in Lynch, 2019). Streeter et al. (2011) proposed that solving the problems of the 21st

century will require entrepreneurial thinking “across all fields, and entrepreneurship education will continue to blur lines across disciplines and fields” (p.84). Thus, the previous studies emphasized that entrepreneurship does not belong only to business or engineering schools, and it can be integrated into diverse university programs’ core curriculum (Lynch, 2019, Streeter et al., 2011). Despite that, the vast majority of research on this topic still belongs to research on students of engineering and business schools.

2.6. Conceptual Framework

The conceptual framework tends to be a systematic approach to building the logic of the research process (Miles et al., 2019). Being a researcher’s “map”, it delineates the boundaries of the data to be explored and builds relationships between the themes. The development of a conceptual framework starts with analyzing the research-related literature in the context of a unique case. In this sense, the selectiveness of the appropriate themes helps to specify the findings and combine them into the relevant groups. Thus, the framework offers a visual representation of the main theories and concepts under the investigation.

This work constructs the conceptual framework based on critical components identified in the previous theories and literature. Since the central phenomenon of the study is the impact of entrepreneurship education on students’ entrepreneurship competencies, the framework addresses the complex process of learning and improving specific abilities. Notably, the research must consider the characteristics of both the audience and learning environment to evaluate the improvement of related skills and ensure the consideration of all learning elements. Therefore, the current research adopts the conceptual framework provided by

Valerio et al. (2014) and adapts it to the Kazakhstani context. Moreover, the competencies part of the current research framework refers to the conceptual model of Bacigalupo et al. (2016), who classified 15 entrepreneurship areas into three areas. In this sense, the framework of current research addresses the following key components (see Appendix A):

a) Participants (who are the participants of the course?)

b) Context (What are the peculiarities of the context?)

c) Program characteristics (The role of the teacher/instructor, focus of the course, final product; percentage of theory and practice)

d) Competencies (What particular competencies does the research focus on?)

This research expects to find a more in-depth understanding of the interrelationships between the described themes. Although the framework represents the general concepts that emerged in entrepreneurship education, the research is open for new aspects and findings on the contextual peculiarities of the program.

2.7. Summary

This chapter offered an overview of the literature on the characteristics of entrepreneurship education and explained how educational processes within the course could affect learners' entrepreneurship competencies. Mainly, the literature referred to previous studies that provided a classification of the core skills that entrepreneurs possess. Besides, the chapter considered the influence of COVID-19 on the learning format and students of this particular course. Finally, the chapter introduced the conceptual framework, which visualized key elements that connected entrepreneurship education and its impact on students' abilities.

Chapter 3. Methodology

3.1. Introduction

The current course curriculum combines the features of technical and business education programs and addresses students' competencies in this interdisciplinary field. According to Harding and Schwandt, a method is the set of research "procedures, tools, and techniques" necessary for collecting the information about the problem (as cited in Rashid et al., 2019, p.5). Therefore, this chapter describes the selected methodology and attempts to justify choosing a qualitative, interview-based research design. The overview of works on a Kazakhstani entrepreneurship courses demonstrate the lack of research on the effect of the course on students' skills, even for business schools. Accordingly, understanding its impact on developing students' entrepreneurship skills requires a focus on the contemporary teaching methodology. Therefore, the current research attempts to answer the following research questions:

1. How does entrepreneurship education develop students' entrepreneurship skills?

2. Is there any significant change in students' entrepreneurship skills after completing this course?

This chapter consists of seven sections. The first section provides a brief introduction to the chapter, while the second section presents the reason for a selected research design. The third section describes the recruitment and sampling procedures and clarifies the rationale of the research participants' selection. In the fourth section, detailed information on the data collection tools is highlighted, and the fifth section explains the data analysis procedure. The sixth section explains ethical considerations, which guarantee the minimized potential risks

and considered before the actual research. In the final section, the researcher summarizes the main points and introduces a short overview of the next chapter.

3.2. Research Design

Based on the research purpose, the current study explores the case of an Almaty private university, which offered the course of Entrepreneurship in fall term 2020 for undergraduate students majoring in Information Systems (IS). In this sense, Robson determines that case studies are more about analytic rather than statistical generalization, and they construct a theory that assists researchers in understanding identical cases, phenomena, or situations (as cited in Cohen et al., 2007). According to the guideline provided by Rashid et al. (2019), the process of case study consists of four phases, where the first phase, the foundation phase, is based on philosophical consideration. The current research applies an interpretive research paradigm in line with their classification, which primarily considers subjective epistemology. Previous research studies on entrepreneurship education applied both qualitative and quantitative methods to analyze the peculiarities of this program regarding the inquiry techniques. However, Rashid et al. (2019) emphasized: “usually, the case studies conducted in business and management disciplines assume the interpretive paradigm, ...and interpretive research is linked to qualitative research methods” (p. 6). Therefore, in the context of current research and its purpose, the use of the qualitative method is reasonable for three points (Flick, 2011):

- a small number of participants for making a statistical generalization;
- the lack of theoretical and empirical studies on this topic in the Kazakhstani context;
- the originality of course structure for Kazakhstani undergraduate programs.

As a result, this applied research uses a case study strategy with a qualitative research method to understand the course influence on student's entrepreneurship competencies over time and learn about the changes in students' skills at the end of the fall term 2020. The study addresses the abductive stance as research logic in order to elaborate on the research purpose. Thus, this abduction logic of inquiry will help "create the framework for future research" on the impact of entrepreneurship education (Dubois & Gadde, 2002).

3.3. Research Sample

According to Streeter et al. (2011), "there is a stronger emphasis on entrepreneurship at the undergraduate level than the graduate level", and 47% of 160 entrepreneurship programs are offered for undergraduate engineering students (p. 84). Comparatively, the entrepreneurship education course is not an ordinary case at Kazakhstani universities, which highlights that the context of this study is relatively unique. Moreover, a previous study on the interrelation of technical and business education programs indicated the deficiency of research on reorganizing technical specialities as one of the educational problems in Kazakhstan (Kozhakhmetov & Kurinkeeva, 2012, as cited in Kurmanov et al., 2015). Therefore, applying a case study research strategy with abductive research logic, this study focuses on the impact of an entrepreneurship course available for Information Systems students of one Almaty private university.

Since this university provided entrepreneurship courses to students majoring in the Information Systems program, the research site selection applied purposive sampling. The research recruited research participants by sending an invitation email to students enrolled in the Entrepreneurship course. Due to the emergency with COVID-19, the course was

conducted online mode and there was no opportunity for offline recruitment. In this sense, the research changed the sampling method from purposive to snowball sampling because of a low rate of response to the invitation email. According to Ghaljaie et al. (2017), snowball sampling is "suitable to find unattainable populations" (p.2); and when the population demonstrates a lack of cooperation. As a result, the interview was conducted with seven 3rd-year undergraduate students recruited by snowball sampling. The limitation of this sampling method was the small number of people who expressed interest in participating in this research.

3.4. Data Collection Tools

Previously, Oosterbeek et al. (2010) used a difference-in-differences framework, and the outcomes of pre-and post-treatment revealed that the impact of the course had insignificant or even negative effect on students' entrepreneurship abilities and motivation. Their findings were based solely on the outcome of a self-assessment survey (Escan test), with no qualitative data taken into account. On the contrary, the current research used online one-on-one interviews as a data collection tool to evaluate the course's effect on students' entrepreneurial abilities and to investigate students' learning gains. An online interview was the most appropriate form of an interview in times of global pandemic. Significantly, the synchronous online interview helped to collect data as in face-to-face interview without missing visual cues. Therefore, the synchronous interviews were conducted via online communication platform (Google Meet) selected by students' preference. Initially, pilot respondents tested the interview questions and evaluated their relevance for the research purpose. When the relevance and validity of the questions were confirmed, the actual interview was conducted

with the research participants. Each meeting applied ten semi-structured interview questions and comprised approximately a 30-40 minutes' conversation. The online meeting video was recorded with the student's permission and then transcribed during the data analysis phase.

3.5. Data Collection Procedures and Data Analysis

Before the data collection procedure, the researcher developed interview protocols for directing the participants with the questions (see Appendix B). Next, the research's permission was taken at two levels: gatekeeper permission (instructor) and participants' permission. The recording was essential for collecting detailed and accurate data on participants' experiences. Therefore, following the research protocol, the online interviews were recorded with the participants' permission. As the study involved semi-structured interviews, the researcher asked participants follow-up questions. Due to participants' preference and convenience, the interview applied Kazakh and Russian languages. For further data analysis, all interview recordings were transcribed and translated into English.

The transcribed interview recordings underwent preliminary exploratory analysis to organize the results into appropriate categories and subtopics. As a result, the researcher identified possible links between the categories by following the research purpose and the research questions. Since the research comprises epistemological research questions, the first cycle coding method applied descriptive coding to categorize the data. After sorting the identified categories, the researcher uses pattern coding for the second cycle of coding. According to Hatch (2002), pattern coding focuses on the similarities, differences, causes, frequency, sequence, and correspondence of initially examined codes and identifies their relationship. Therefore, the researcher synthesized the trends to combine participants'

reflections on the process, context, and content into connected patterns. The researcher started analyzing the data after identifying the patterns.

According to Rashid et al. (2019), reliability and generalizability are considered as a benchmark for evaluating research outcomes. However, since the research focused on the qualitative data and interprets the unique case of entrepreneurship course in fall term 2020, the case cannot be replicated, and the research findings cannot be generalized (Easton et al., 2000; Merriam, 1988, as cited in Rashid et al., 2019). Thus, in the context of current research, the assessment of reliability and generalizability cannot be applicable and would be irrelevant.

3.6. Ethical Considerations

Ethical consideration is a critical part of conducting the research. Therefore, before starting the data collection phase, the GSE Research Ethics Committee approved the research. The current study was considered as "no more than minimal risk research" and presented the discomfort not greater than students could encounter in their daily lives. Before the research, informed consent was developed to introduce the ethical issues and promote participants' understanding of the research purpose and process (see Appendix C). Besides, this consent ensured interviewees' confidentiality and emphasized voluntary participation in the current research. In the study, coding data and using no identifying information maintained the confidentiality issue. Any information the researcher will use for publication will not identify the participants individually.

The researcher emailed and organized the offline meeting with the course instructor to explain the research objectives and get permission for recruiting the course students to the research. After the instructor's agreement, the students received an invitation email with

introductory information about the research purpose and process. Next, the researcher specified the convenient time and date for online meetings with students who agreed to participate in the research.

Before the online interview, the researcher organized a private space without the possibility of others to discern the identity of the participants. At the beginning of the interview, the researcher introduced the students with informed consent one more time. The researcher has ensured that participants' identities and names will not be disclosed to third parties and that identifying information will not be presented in the final report. The researcher restated the purpose of the research and the participants' rights during their participation in the research. According to the practical protocol, the study collected data from seven interviews, and each interview included ten semi-structured questions. The researcher recorded the conversation with the participants' permission and ensured that no one outside the study views the video recording. After the meeting, research findings (audio recordings and field notes) are transcribed for further in-depth analysis. Finally, the research findings, interview recordings, and transcriptions were stored on the researcher's laptop, protected by two-step verification.

3.7. Summary

This chapter explained the rationale for applying a qualitative case study design and dwelled on the reasons for choosing the research site. In this sense, several reasons were identified to justify the choice of the site: a) the site was considered a higher education organization that provides entrepreneurship as an elective course; b) the elective course was offered for students of technical speciality. Next, this chapter described purposive sampling for recruiting research participants, which resulted in the experience of seven students enrolled

in the course. To describe the data collection process, the section on data collection tools explained the reason for choosing the semi-structured interviews. To ensure confidentiality and minimize the potential risks, the data collection procedure followed the stages of the ethical review process; therefore, the final section distinguished the ethical consideration process, essential for receiving approval from the GSE Research Committee.

The next chapter presents the findings of semi-structured one-on-one interviews and explains the program's impact on student competencies. Moreover, the chapter contains a section that describes the benefits and challenges faced by research participants during the course.

Chapter 4. Findings

4.1. Introduction

This chapter presents the research findings to understand the impact of an entrepreneurship program on students' entrepreneurship competencies. The findings were based on the responses of 3rd-year undergraduate students who have entrepreneurship as an elective course. The data analysis has been conducted to answer the questions regarding the process of student involvement in the learning process of entrepreneurship courses. To be specific, two research questions were answered:

1. How does entrepreneurship education develop students' entrepreneurship skills?
2. Is there any significant change in students' entrepreneurship skills after entering this program?

The chapter consists of six sections that present the details of the research findings. The first section presents a brief introduction to the main points raised in this chapter. According to the themes identified during the data analysis, the findings described in sections two and three aim to answer the first research question, while the fourth and fifth sections illustrate the key findings related to the research question 2 indicated above. In this sense, section two provides the findings on the course characteristics, mainly describing the course, content, and events, whereas the third section describes the context of teaching and learning, highlighting students' expectations and the actual learning process. Next, the fourth section highlights the influence of the course activities on students' specific competencies, while the fifth section combines the

benefits, challenges, and suggestions for improvement. Finally, the last section provides a summary of the chapter.

4.2. Course Characteristics

Students were asked to describe the course and reflect on the course materials for learning about the peculiarities of the course within the context of Kazakhstani university. Therefore, this section will address two themes that emerged based on the research findings: course description and course content.

Course Description

The found general information about the research site demonstrates that this university positions itself as one of the leading universities providing quality knowledge to future IT professionals. The Information Systems program provided by the university establishes a strong foundation for people majoring in computer science through disciplines such as the basics of programming, web programming, discrete math, database management systems, and computer networks. In addition to the core courses, the program provides several elective courses, where the course of entrepreneurship is offered as one of them. According to the responses, during the fall term 2020, this course was available for approximately 70 students and ran for one semester. However, the research findings represent responses of seven students who agreed to participate in the in-depth interviews. These interviews were conducted via the Google Meet platform and focused on students' experience in an entrepreneurship course.

In response to research question 1, students were asked to describe the course and share their attitudes towards the learning process. According to students' responses, the course's learning objectives are designed to prepare qualified professionals to handle tech (IT) projects using an entrepreneurial mindset and skills. In general, the course was significant for enhancing students' abilities to develop the product by applying their previously acquired knowledge and skills into software/application development. In this sense, the learning process was based on teamwork, where teams were formulated of four people. To complete the course, the designed program required each member to have their responsibilities within the team: project manager, social media and marketing (SMM) specialist, and two App developers. Students noted that venture development required both individual work and teamwork due to their assigned role.

Content

Student's responses indicated that the course content consisted of both theoretical (the business plan development) and practical (building the team, delegation of roles within it, developing the application, and selling the startup to the investors) components and supported the idea of teaching "through" entrepreneurship. In this regard, most students emphasized that theoretical knowledge and practical skills were approximately the same. However, when it comes to their satisfaction with the content, students highlighted that there still was a deficiency of social involvement: meeting with investors, seed capital days, the attraction of investments, and others.

When students were asked to rate the quality of learning materials, their feedback revealed diverse responses. The majority of the participants mentioned that they could acquire

more profound knowledge in this field due to the assigned role as a product manager, course materials, and self-study strategies (Participants 3,4,5).

> I often heard about this profession but did not understand who a product manager is. Therefore, after being assigned to the role of product manager, I began to search and read more information about it, compare its features in Kazakhstan and abroad. Mainly, what I studied and applied on the course influenced the fact that I consider this profession an alternative future (Participant 5).

However, Participant 6 was interested in the field of project management and entrepreneurship before entering this course, and he reflected that: "The reading materials did not give me new knowledge, and I preferred to practice self-study and focus more on working independently" (Participant 6).

Thus, the students' responses suggest that instructors need to consider the learners' level and experience when preparing course materials. Particularly, to enhance the impact of the course, the instructor suggested providing reading material for both entry-level and experienced learners.

4.3. The Teaching and Learning Process of the Course

The researcher asked students about the learning process, their expectations from the course, and involvement in project development to understand how entrepreneurship education develops students' entrepreneurship skills. Based on the research findings, two subtopics emerged from the students' experiences: students' expectations and the course's actual process.

Students' Expectations

Four out of seven interviewed students had no previous business experience, and the elective course was their first time participating in a unique program focused on

entrepreneurship. Two out of seven students noted that during their school years, they were engaged in business unconsciously, and one of them emphasized the role of a family member as a model for such behaviour. In this regard, what motivated them to choose a course as an elective course has been raised.

According to the participant's responses, the first thing that induced their interest was the name of the course, which implied a combination of several disciplines and engaging content. Since most interviewees did not have previous experience in leading an enterprise, students had a natural curiosity to learn something new within the program curriculum. Five respondents indicated that their intrinsic motivation to become an entrepreneur influenced their final choice, while the other two students emphasized the role of their program requirement and a mandatory number of elective courses in their speciality as were the main drivers of choice.

Depending on each individual's purpose of choosing this subject, students had different expectations from the course. The interviewees differ in their expectations, and the actual learning process left a different impression on them. The participants' responses reveal that, at the initial stage, they preferred to understand the market and have some introduction to the business processes and essential elements of entrepreneurship. In this sense, Participants 1 reflected as follows: "I thought that we would do market analysis, calculate the percentages of benefits and risks, but it turned out that this is just a test of our skills in software development" (Participant 1).

Compared to Participant 1, another group of students expected to practice more complex entrepreneurship processes, but the course materials were designed for beginners (Participant 5, 6).

Based on students' responses, the research classifies the interviewees into beginners and those who have basic knowledge about the field. As a result, students' background knowledge and preparedness for uncertainties influenced their expectations from the course and reflected on the learning outcomes from the course.

The Real Learning Process

The last part shows that respondents' inner motivation to become an entrepreneur and the attractive title of the course were the main drivers of students' motivation to be in the course. However, when discussing the actual learning process, most students emphasized the importance of the quality of learning components such as the course format, process and activities, content, teacher's role, and assessment criteria (Participants 2,3,5).

COVID-2019 and online education format.

While students were supposed to have in-depth knowledge in entrepreneurship, several factors complicated the situation. The first aspect is the forced transition from an offline to an online learning format. Compared to the previous year, the learning mode for fall term 2020 has been unpredicted until the academic year. Since the quarantine period was prolonged, all levels of educational institutions offered their courses online. For the entrepreneurship course of a research site, this was the first time of conducting this program online. Several students reflected that their teams were often overwhelmed, distracted, and lacked the motivation to work on their tasks due to their previous experience in online learning (Spring 2020) and

continuous quarantine. Thus, this led to frustration and procrastination and affected the quality of the product.

Some interviewees mentioned that their teams had challenges with their product promotion due to the distance education. Notably, these students highlighted the difficulties in finding investment and promoting their product. Lack of prior experience selling goods and insufficient interaction with practitioners was exacerbated by the effects of COVID-19, resulting in an inability to present their product to the marketplace. These learning outcomes have been identified as the limitations of the global pandemic and online education.

On the other hand, compared to students who negatively reflected on the online learning format, one of the interviewed students argued that this format has advantages when students need quick feedback: “When you are online all the time, you can get a quick response to the question from your teammate or instructor compared to the offline format when you wait for the face-to-face meeting with the instructor” (Participant 2).

The findings revealed that due to the circumstances with the global pandemic, this cohort could examine entrepreneurship education in a unique learning format. Thus, their experience can help identify both advantages and disadvantages of online learning and contribute to the program components’ future advancement.

Teacher’s role.

In the current research, all interviewees highlighted that the course instructor represented irresponsibility towards managing the learning process. Some students indicated that there were cases when the instructor conducted an online lesson in inappropriate places, postponed course materials, and did not give feedback to students’ questions (Participant 4). When

respondents were asked to describe the teacher's role within the course, one respondent complained as following:

> It was hard to reach out to our instructor. Even if we sent him an email, the instructor could answer very late or give vague answers to the question. Besides, in the middle of the term, our team realized that the product was irrelevant and did not meet the evaluation criteria. If we got clear directions from our instructor, we could change the product earlier and have a more successful startup (Participant 2).

As mentioned above, the data available in this study revealed that all the interviewed share the viewpoint that the instructor should be a facilitator and need to motivate his students. Meanwhile, when other respondents were asked this question, interviewees marked that the instructor's responsible attitude towards the teaching process is also one of the main components of the program's effectiveness. In this regard, one of the students shared:

> I can say that the instructor treated his work and his students irresponsibly. As a student from Western Kazakhstan, I had a time difference with people living in the Nur-Sultan time zone. Therefore, I had to prepare for morning classes earlier than others. However, when we joined the online class, the instructor could go outside, take the bus somewhere, or talk to someone. His attitude caused a similar reaction among students and deprived them of the motivation to actively participate in the educational process. Moreover, the instructor demonstrated his incompetence when he entrusted his work to assistants, who were also our age and had to evaluate our work (Participant 4).

4.4. The Influence of the Course Activities on Students' Competencies

The research focused more deeply on the interviewees' experience of project development and the transformation of main competencies to learn about any significant changes in students' entrepreneurship skills. Most interviewees describe their experiences positively and note that somehow their entrepreneurship competencies have progressed within the course framework. Although there were some divergent opinions on the teacher's role and program curriculum, approximately all interviewees noted that the course helped them to understand the field of entrepreneurship and the world of product development.

Most interviewees were the project managers responsible for successfully executing tasks through the appropriate allocation of resources (time, people, money, and skills). Despite some groups having a leader in charge of technical issues, the students appointed as project managers noted that in many ways, they were interacting with people: team members, investors, the course instructor, and his assistants. These individuals planned to continue their careers in three ways: project-manager, software developer, and entrepreneur. Despite the distinctions in the definitions of entrepreneurship and project management, students perceived that some of the functions of these two professions tend to be identical. To this extent, several students perceived a project manager's career as the first step of becoming an entrepreneur.

According to interviewee responses, successful completion of the course required the implementation of various skills. Students were asked to list the basic entrepreneurship skills that they acquired within the course. The majority of students classified these competencies into two categories: hard skills and soft skills. Among the most popular abilities listed during the interview, the research highlights the following soft skills: networking, perseverance, understanding, self-branding, time management, resource management, consciousness, self-management, knowledge from books (self-development).

Teamwork

At the beginning of the academic year, the respondents were introduced to the program curriculum and assessment criteria. Accordingly, students were required to develop a product (mobile application) in small groups of four people. Although each team member had their responsibilities, their work was assessed through the quality of the prepared final product. Students were engaged in collaborative work and employed effective communication

strategies since they were striving for the same goal. Moreover, the student indicated that the course introduced them to the primary role of teamwork. In this regard, one of the interviewees explained:

> This experience helped me extensively understand how exactly a team should work. It is not just being a member of this team but helping each other when you have questions. Thus, this interaction develops you in your direction or task (learning aspects) and helps acquire new knowledge in other aspects of life (Participant 2).

When students were asked to describe the importance of teamwork, they reported that it was one of the most important aspects that helped them overcome COVID-19 and distance education challenges. Teamwork, according to respondents, allowed them to create a smaller community of people who shared a common goal and struggled with the same problems. Another aspect of teamwork was assessed during networking with the investors when using more channels for the practitioner's search.

Networking and Communication

From the beginning of the course, students had an opportunity to apply their existing networking skills. To build a success-oriented team, they must know if the team members and their ideas matched. Next, students noted that working in a team and creating a product without conflicts can also demonstrate good communication skills.

When students were asked to reflect on their progress in networking skills, interviewees emphasized that interaction with teammates and different level professionals improved their communications skills. In this sense, Participant 6 provided an example of Steve Jobs, who was running his corporation, and people by applying excellent communication skills. Despite

the mentioned opportunities, Participant 5 emphasized that he still needs to improve his business communications skills and hone the networking skills.

Problem-Solving Skills

When interviewees were asked to exemplify the most stressful situation from the course, Participant 7 described the moment of his conflict management. During software development, Participant 7's team had to reevaluate their product and change it dramatically. The time devoted to restructuring the product was limited, and the team members were stressed. Based on the limited time and exhaustion, some team members behaved aggressively. Participant 7 discussed this as the following:

> As a product manager, I needed to build effective communication among the team members. Therefore, to solve the problem, I gathered a team and explained our goal, each member's responsibility, application functions, and course requirements. Open communication and solving the problem together was the key to success (Participant 7).

Resource Management

All the participants agreed that resource management is of primary importance when striving for the final product's success. According to students' responses, resource management included time management, task allocation, people management and financial management. The most important place was given to time management since the project development process consisted of stages that had to be completed before the deadline: "Following the deadlines indicated in the syllabus helped manage the time appropriately" (Participant 5).

In addition to time management, respondents had to deal with their individual and team responsibilities. Notably, students who were assigned to the role of project manager, required to track the progress in the context of individual and team performance.

Consciousness and Responsibility

The interviewees noted that the experience of getting involved in the development of a startup required responsibility due to several reasons. Initially, it was essential when students needed to work together to meet the deadlines. Due to the role of teamwork in startup development, the failure of one participant could affect the result of the entire product. As a result, responsibility towards the success of the team motivated students to practice proper time-management strategies.

Further, the evaluation of the product's success included criteria for its attractiveness to the market and the quality of work. Therefore, the following reason for the sense of responsibility was the role of the product itself.

Hard Skills

Surprisingly, some substantial change was found in student's hard skills before and after the course. According to the students' responses, students reflected more positive changes in their soft skills than hard skills. When reflecting on hard skills, students indicated the role of business plan writing and technical skills for understanding the core processes of product development.

Since the course was directed to the students of the IT program and their startups were related to the information systems, students marked the role of some programming languages such as JavaScript, Html, Firebase (Participant 5). Students emphasized that these coding

languages provide them with the advantage of understanding the cause and effect of occurred problems necessary for solving the related issues.

When reflecting on their intention to become an entrepreneur, some students preferred to be a professional in their major, i.e., software developer, and then develop as an entrepreneur. Therefore, these students planned to develop their technical skills first and then improve soft skills to build their enterprise in startups (Participant 2).

Business plan writing.

Students indicated that they were introduced to the essentials of writing the business plan and acquired knowledge on the significant elements and stages (Participant 4, 7). Moreover, it was mentioned that writing the business plan taught the students to analyze market opportunities and present them in an organized and structured way.

Marketing and branding skills.

Besides, students emphasized the importance of presentation skills for implementing marketing strategies. Thus, product marketing includes both presenting the product to investors and managing social media channels like Instagram and Facebook. In this sense, oral presentations mainly required a structured speech with the knowledge of business etiquette and elevator speech. These findings are also in line with the soft skill of brand marketing.

Self-Development through Reading.

When respondents were asked to characterize the hard skills for being a successful entrepreneur, some emphasize the role of independent learning or additional reading of relevant books and learning new techniques for business management (Participants 2, 5, 6).

Even though these skills may refer to soft skills, the teachable and measurable features of acquired knowledge and skills consider reading a hard skill.

4.5. Benefits, Challenges, and Suggestions for Improvement

Benefits

When it comes to the benefits of entrepreneurship education, almost all the respondents emphasized a positive effect of this experience on the students' professional development. Notably, the interviewees highlighted that the course could provide the environment for networking within the same cohort and finding the right team.

Another advantage of experiencing entrepreneurship education stated by the students was developing authentic skills such as preparing business plans, meeting with the investors, and product presentation. Compared to the start of the course, most students highlighted that it was a positive experience to taste leading the enterprise and helped to understand individual's strengths and weaknesses (Participant 5).

Challenges

The study revealed some challenges experienced by the research participants during the learning process within entrepreneurship. The main challenge that most students agreed on was the role of the teacher, who demonstrated an irresponsible attitude, had limited experience in doing startups, and needed more experience in teaching entrepreneurship education.

Next, online education was an obstacle to the rapid development of soft skills. However, on the other hand, it influenced the students' flexibility and meeting the environmental challenges and uncertainty of the reality.

Suggestions

During the interview, students were asked to assess the program's effectiveness in developing their entrepreneurship competencies. These assessment results varied depending on students' motivation, interaction with external sources, and acquired knowledge. Interviewees indicated that they would rate the program effectiveness for 6-7 points (above satisfactory level). Students suggested that the involvement of investors as mentors would increase their opportunities to enter the market of startup development. Moreover, interviewees proposed more activities on bargaining, selling unwanted goods, and communication with genuine buyers to the course structure.

4.6. Summary

This chapter displayed the findings on the impact of an entrepreneurship program on student's entrepreneurship competencies. Especially, collected data demonstrated that the respondents perceived teamwork as an assisting learning component, which helped them adapt to a new learning environment and an opportunity to develop entrepreneurship skills. The chapter described students' entrepreneurship experiences in their allocated roles and personal reflection on the learning process. The findings indicated that the impact of the entrepreneurship course could be evaluated within the framework of all learning components. Moreover, the chapter considered how the students' soft and hard skills would evolve as the course progressed.

The study focused on the following components of entrepreneurship learning: a) course description, b) content, c) student expectations, d) actual learning process, e) teacher's role, f)

student learning activities and competencies. They also noted the positive and negative aspects of the course that could affect the development of entrepreneurial competencies. Besides, research participants highlighted the benefits and challenges they encountered during the course and highlighted the knowledge gap that caused additional stress.

The next chapter will present a detailed discussion of the findings and interpret them according to the reviewed literature and previous studies' results.

Chapter 5. Discussion

5.1. Introduction

This chapter interprets the research findings to understand the impact of an entrepreneurship program on students' entrepreneurship competencies. Mainly, the research analyzes the experience of university students in the project development process and evaluates what entrepreneurship competencies progressed after the course. The research applied a qualitative case study approach and focused on the experiences of seven students from an Almaty private university. For this purpose, the researcher conducted semi-structured one-on-one online interviews and focused on students' reflections about changes in their entrepreneurial competencies. The data was processed in two cycles to conduct a thorough investigation: through descriptive and pattern codings. Accordingly, the in-depth analysis of research findings identified the following themes: course content, teacher's role, entrepreneurship competencies, and influence of COVID-19.

The chapter has been divided into six sections to provide the reader with clear and structured analysis. The first section deals with a brief discussion of the main points raised in this chapter. The second section presents the distinctions in students expectations and authentic experience of developing a startup. The third section discusses how specific course components developed students' entrepreneurship knowledge and competencies. The fourth section comments on crucial moments of students' learning processes and explores any significant change in students' entrepreneurship skills after completing this program. Next, the fifth section highlights why certain benefits and challenges of entrepreneurship education are

experienced by the students and explain why some course elements need to be improved by program developers. The key findings of the study are summarized in the final section.

5.2. Expectations and Reality

Entrepreneurship education was previously defined as a discipline that develops people's entrepreneurial mindset and intention by advancing existing competencies (Barr et al., 2009; Cruz et al., 2009; Daud et al., 2011; Jones & English, 2004; Mitra, 2002; Ratten & Jones, 2020). Moreover, this program was perceived as a source of business opportunities for enterprise promotion and practical knowledge for venture development. In this sense, the current findings demonstrate that students' interest in an entrepreneur's career influences their decision to enroll this course. The research participants expected to gain authentic knowledge on developing and leading businesses through direct interaction with experts and practitioners. However, due to the unexpected shift to online learning, students' expectations about course outcomes and real-life experiences have been twofold.

Since entrepreneurship education teaches the learners to be ready for uncertainties, previous researchers emphasized that the global pandemic provides an opportunity to explore the versatility of the entrepreneurship education curriculum and the impact of online learning on program outcomes (Liguori & Winkler, 2020; Ratten & Jones, 2020). However, in the current case, responses revealed that the course instructor and the curriculum were not prepared for the challenges of emerging distance learning. These challenges can be explained by Tayauova and Bektash (2014) findings, who also pointed out these problems in the Kazakhstani entrepreneurship structure.

5.3. RQ1: How does an Entrepreneurship Education Develop Students' Entrepreneurship Skills?

The results suggest the course curriculum components scaffold learners' self-learning strategies and offer an environment for professional development. In this regard, respondents indicated the significance of complex analysis of the course components in assessing the impact of entrepreneurship education on their competencies. Thus, the research findings revealed that course content, teacher's role and teaching methodology, and COVID-19 affected students' skills but not much more than they experienced from other courses.

Course Content

Previously, Valerio et al. (2014) emphasized that the content and learning instruments of entrepreneurship education need to target secondary school and university students. In the current research, the course audience was undergraduate students who differed in their prior experience in entrepreneurial activity. The teacher-student interaction model was more inclined towards experiential learning, and the course description was identical to the EXEC presented by Fleck and Teckchandani (2019). The program syllabus included theoretical (business plan development) and practical components (building the team, delegation of roles within it, developing the application, and selling the startup to the investors). Accordingly, previous literature highlighted the role of course content and course objectives that need to be considered when planning the course (Ahmed et al., 2020; Din et al., 2016; Knotts, 2011) and recommended including business plan writing, guest speakers, online resources, and a sufficient number of authentic activities as the practical components of the course content. Despite these suggestions, the current findings revealed that course materials and practical

exercises need to be categorized by the discrepancies in students' prior knowledge of business processes, experience in enterprise development and intention of program choice. Although several researchers suggested categorizing entrepreneurs by their proficiency level (Bacigalupo et al., 2016), no preliminary research on entrepreneurship curriculum content recommended classifying learning materials into these proficiency levels. As a result, the current study suggested revising course enrollment requirements and teaching content to create opportunities for both novice and experienced students.

As mentioned in Solomon et al., entrepreneurship education demonstrates the prevalence of practical tasks supported with relevant theoretical knowledge (as cited in Knotts, 2011). In addition, previous studies by Lamine (2020), Ratten and Jones (2020) emphasized the significance of guest speakers to introduce the market collaboration, networking patterns, collecting constructive feedback, and serving as role models and mentors for students. Contrary to expectations, this research discovered that the course materials included no interaction with the guest speakers, while practitioners from the field were involved only as investors. Thus, the disadvantages mentioned above reflect the actual learning environment. Due to a lack of collaboration with peers, investors and a lack of connection between university, industry and research organizations, students' needs for social interaction were only partially satisfied. In this sense, a scarcity of contact with people and procedures from the actual market negatively affected the effectiveness of current course results. Therefore, the findings proposed to include sessions with guest speakers, more interaction with practitioners, and other authentic activities such as bargaining, selling unwanted goods, and business communication with genuine buyers to the course structure.

Teacher's Role

All program elements, including the teacher's role, influence the success of the program objectives. Notably, Egerova et al. (2016) emphasized that the course instructor must have experience in creating and managing business projects and have sufficient qualifications for motivating students into the process of making their enterprise. Similarly, research participants expected the teacher to be an expert and have previous experience in leading an enterprise. However, the instructor, who ought to facilitate this idea, could not provide the relevant example by his expertise and behaviour. Students' feedback indicates that although the instructor referred to his experience of creating and implementing entrepreneurial projects, his examples and experiences were limited and could not provide sufficient knowledge about effective entrepreneurship models.

Moreover, the findings highlighted that although some of the students approached the instructor for advice or with the question, in most cases, he responded late, and sometimes the provided answers were vague. The research found that the teacher's lack of experience in enterprise development caused decreasing students' intention to become an entrepreneur. The teacher has failed the facilitator's role, and most students emphasized that the teacher and his attitude towards the course were irresponsible. Respondents indicated that the instructor's experience in enterprise development, teaching method, preparedness for uncertainties, and advisory role were essential in assessing the course outcomes. These challenges can be explained by the conclusion of Tayauova and Bektash (2014). They found a shortage of training courses and opportunities for teachers' preparation as one of the challenges in Kazakhstani entrepreneurship education. For this case, researchers suggested that the course

instructor should be a person with sufficient knowledge of business processes and authentic practices (Egerova et al., 2016).

The impact of COVID-19 on course delivery and students

The literature on the experience of international universities demonstrated their expertise in incorporating entrepreneurship courses by strengthening weak elements and upgrading components regularly. Moreover, previous literature on entrepreneurship skills highlights that the entrepreneur needs to be ready for changes in unstable world processes and find opportunities in them. However, the current study on a Kazakhstani private university's entrepreneurship course revealed a different reality. Despite all government initiatives and support programs, the actual process of local entrepreneurship education still needs significant investment in preparing the learning environment and content for the development of beginner-level entrepreneurs, their knowledge and skills. In particular, lectures and workshops of the course under research were delivered synchronously as part of the transition to online learning. Thus, the instructor uploaded the learning resources to the online platforms "Google classroom" and "Moodle". However, the analysis of course content revealed that there is a need for online learning content with an emphasis on local context and digital collaboration networks that can connect learners and mentors across Kazakhstan. These characteristics were in high demand among students who had moved to distance learning emergently and were geographically dispersed throughout the country. In this sense, the research can suggest some contextual response to two issues that emerged by Liguori and Winkler (2020). First, online education in entrepreneurship education can be effective if all course components are carefully prepared: course materials, instructor, digital environment for practicing entrepreneurship,

networking with entrepreneurs, and selling startups. Second, the effectiveness of teaching entrepreneurship education online remains uncertain due to the lack of longitudinal research on this topic.

Along with the learning outcomes, students reflected the influence of social aspects on their mental health. Under the influence of social isolation and limited interaction with the community, some students suffered from stress, depression, lack of motivation, frustration, and procrastination. Students indicated the influence of COVID-19 on their mental health; however, the interrelation analysis did not find its direct impact on student's competencies. Therefore, mentioned mental challenges can be seen as a general psychological impact of online learning, not limited to the specific discipline. Instead, the analysis of interrelationships between course components demonstrated that the team's flexibility, creative thinking, and digital communication skills were enhanced by online learning format and implementing self-learning strategies.

5.4. RQ2: Is There Any Significant Change in Students' Entrepreneurship Skills after Completing This Course?

The research focused on the interviewees' venture development experience to learn about any significant changes in students' entrepreneurship competencies. Researchers previously highlighted that entrepreneurship is more about nurture (Cooper et al., 1994; Fiet, 2001a; 2001b, as cited in Sullivan, 2011; Petridou & Glaveli, 2008). Hence, receiving special education and gaining necessary practical knowledge can develop entrepreneurship skills and mindset (Bacigalupo et al., 2016; Glaveli, 2008). Moreover, students varied in their motivation

(intrinsic or extrinsic) to choose the course of entrepreneurship, and they were divided into two groups depending on their preference. First, students, who consciously selected this course, emphasized the positive changes in their intention to become an entrepreneur and mentioned that the employed self-learning strategies assisted them in learning beyond the course curriculum. They highlighted the habit of additional reading as a beneficial skill for constantly improving their expertise in the chosen field.

In contrast, the second group of students, who chose the course due to extrinsic motivation (grades, no option of election, and others), had ambiguous intentions to build a career as an entrepreneur. These students reflected that they possessed more interest in their major program (Information System) and considered their careers in programming. In addition, they emphasized improving only some of the entrepreneurial competencies and demonstrated a greater focus on developing their professional skills.

Because most of the students indicated that they had no previous experience building enterprise, this research considered them entry-level entrepreneurs. This category was consistent with Valerio et al. (2014), who noted that university students usually acquire the basic knowledge and skills that any entrepreneur should possess. Because students were new to enterprise development and involved in teamwork, the study could not categorize them according to Ronstadt's (1984) classification. Despite the suggestion of Lynch (2019) and Streeter et al. (2011), this research focused only on the experience of engineering undergraduate students' involvement in entrepreneurship course. Thus, this focus helped to determine how an entrepreneurship course affects the skills inherent in information systems students.

Students' self-reflection on their progress after the course demonstrates improved entrepreneurial competencies, including soft and hard skills. Since students were assessed in teams, achievement in competencies may be related to the consequences of their responsibility to teammates. In particular, respondents emphasized the significance of teamwork as a valuable source for developing tolerance and effective communication strategies. Moreover, teamwork also helped to deal with the influence of social isolation: stress, depression, lack of motivation, frustration, and procrastination. Interestingly, not much literature on experiential learning and the relation between entrepreneurship education and competencies emphasized the role of teamwork. Instead, the literature referred to "networking" and "collaboration" (Sharms, 2019), which may possess different semantic interpretations. Notably, Rattan and Jones (2020), Tayauova and Bektas (2018) stress the importance of university collaboration, market collaboration, and the Triple Helix paradigm, but no emphasis found on collaborative learning in small groups. Therefore, this research highlights the role of teamwork and collaborative learning, especially during times of uncertainty and emergency, when people need social support in the form of close interaction with peers.

Furthermore, when commenting on the acquisition of soft skills, students reflected a significant change in the following entrepreneurship skills: networking, perseverance, self-branding, time management, budget management, consciousness, self-efficacy, self-learning and necessity for additional readings. The mentioned competencies seem to apply to most disciplines that use teamwork as a practical component of their course. These findings are consistent with the provided frameworks of Bacigalupo et al. (2016) and Sharma (2019). Notably, the current research findings confirmed Robles and Zárraga-Rodríguez (2015)

conclusion, emphasizing the value of initiativeness, responsibility, problem-solving, knowledge search and interpretation, and job efficiency in enterprise development.

In this study, students have mainly been involved in the self-learning process. Although the previous literature did not indicate the exact hard skills associated with entrepreneurship education, students expected to improve skills specific to the Information systems program. Since the roles were delegated within the team, each student could improve their hard skills accordingly. In the context of current research, the study revealed the following hard skills: software/application development, business plan writing, presentation skills and marketing skills (branding). Previous literature did not specify presentation skills, business plan writing, and branding as hard skills (Bilán et al., 2005, as cited in Lynch, 2019; Sharma, 2019); however, they are categorized as hard in present research skills due to their teachable and measurable features. Thus, it can be deduced that hard skills are associated with students' main programs, while entrepreneurship education is often regarded as developing students' soft skills.

The current research discovered that students' environment had an impact on their intention to become an entrepreneur. Notably, peers and friends had a more substantial effect on some students' intention and experience to become an entrepreneur than their parents. This finding can be explained by students' social environment in their daily interaction. However, despite students reflect the positive impact of the course on their hard and soft skills, the analysis show that the course was scaffolding their existing abilities, and the changes in skills may have been a result of students’ previous courses and experience.

5.5. Benefits and Challenges of Entrepreneurship Education

Previously, researchers highlighted several serious drawbacks that block the development of entrepreneurship education in the Kazakhstani context (Kozhakhmetov, 2016; Tayauova & Bektash, 2014; Yar-Mukhamedova et al., 2017). Although some improvements in infrastructure and business cooperation can be observed, the current study found that the situation remains the same. A review of the available literature showed a predominance of work on the theoretical aspect of improving program outcomes, as indicated by government support for entrepreneurship training programs.

Students' responses on the teacher's role, their qualification, learning methods, and existing knowledge base demonstrated that these components of entrepreneurship education are still underdeveloped and need serious attention from the perspectives of the university and program managers. The main challenge that most students agreed on was the role of the teacher, who had limited experience in doing startups and teaching entrepreneurship education. Besides, online education was an obstacle for the rapid development of soft skills. However, on the other hand, it influenced the students' flexibility and meeting the environmental challenges and changes.

The interviewee highlighted that the main benefit of the course is networking with different people and finding the right team. Thus, teamwork helped students in minimizing the impact of social isolation during a pandemic. According to the research findings, students who could establish positive interrelation within their teams could successfully overcome the challenges of online learning and lack of teacher-student interaction. Notably, the interaction

with peers and established deadlines helped the respondents build effective self-management strategies, time management, and delegation tasks.

5.6. Summary

The section presented a critical examination of the data gathered on the impact of the entrepreneurship course on students' competencies. The major criticism of the research has centered on the following components: teacher's role, students' abilities, and the impact of the global pandemic on course elements. Findings revealed that teamwork could be an effective method of managing the influence of COVID-19 on students' mental health, socialization, and accomplishment of course requirements.

The following chapter provides the research conclusion, limitations and suggestions for future research studies.

Chapter 6. Conclusion

Entrepreneurship contributes to job creation, poverty reduction and the economic development of the country as a whole. As an engine of economic growth, entrepreneurial characteristics and competencies are essential to withstand the changing dynamics and global pressures on business and be professional enough to maintain and strive for success in the entrepreneurial world.

This thesis focused on the impact of entrepreneurship education on student entrepreneurial competencies. Initially, the researcher planned to conduct mixed research and compare changes in students' competencies before and after the course. However, the external conditions and the limited number of students' responses switched the research focus from pre and post-test to students' self-reflection at the end of the course.

In the current study, the concept of entrepreneurship learning has been extended from venture development to entrepreneurial mindset and competencies through an experiential learning approach. The role of program characteristics in enhancing personal aptitude is consistent with the arguments of Bacigalupo et al. (2016), Potter (2008), and Sharma (2019). In this sense, some key literature has contributed to a better understanding of the specifics of entrepreneurship education. For instance, Ahmed et al. (2020) and Valerio et al. (2014) provided conception of entrepreneurship education content and classification, whereas Ratten (2020) helped to identify the influence of COVID-19 on course delivery. When focusing on the impact of the course, the findings revealed identical skills specified as a part of entrepreneurship spirit in Din et al. (2016) and Ronstadt (1984). Mainly, this case study finding provided insight into the characteristics of the program in a Kazakhstani context and

helped to define the conditions for nurturing entrepreneurship competencies in the context of Kazakhstani private universities.

The most notable interpretation was that entrepreneurship education prepares people for uncertainty and helps them cope with the processes of an ever-changing world (Liguori & Winkler, 2020; Ratten & Jones, 2020). Prior to data collection, the impact of the global pandemic was considered an uncertain factor in determining the improvement in student competencies. However, current research findings have highlighted the role of the worldwide pandemic in shaping the conditions for the course, and some insights were consistent with the conclusions of recent literature on COVID-19. The global pandemic has provided an excellent incentive for students to put their newly acquired skills into practice and transfer them into reality. Moreover, the unexpected circumstances with this emergency enabled students to be flexible to the emergent changes of the external world.

While all course components were shown to be of particular importance, the teacher's role in and outside the classroom significantly influenced student progress and satisfaction with learning. Surprisingly, despite the prevalence of complaints of teacher incompetence, students' feedback reflects the growth of entrepreneurial knowledge, skills, mindset, and intention of becoming an entrepreneur. The experiential learning approach encouraged students to practice business plan writing, brainstorming, choosing the direction and type of enterprise, software development, and introducing a product to investors. Although students' progress in their entrepreneurship competencies was almost identical with previous studies, the research indicated the role of teamwork in improving students' soft skills such as responsibility, time-management, and resource management. Therefore, this case study

findings may be generalized within the particular case, the specific unit of assessment such as a group of individuals with similar characteristics, course programs, and curriculum, to name a few.

In conclusion, students' hard and soft skills were most likely the result of their preceding studies and experiences, and it's impossible to say how much the course contributed to their growth. Besides, this entrepreneurship course program combined several facets that differ from the traditional learning experience. First, the program tried to teach students entrepreneurship using experiential learning, which is rarely found in Kazakh universities. Second, the program included teamwork, which can be a means of social engagement and networking, stimulating other entrepreneurship skills. Finally, it is recommended to involve practitioners in the venture development process as mentors or investors, i.e. stakeholders, to ensure the effectiveness of this program.

Limitations

There are several limitations to this study. Firstly, this study revealed the limitation in terms of representation. Since this research explored the course effectiveness during COVID-19's pandemic, the researcher faced difficulties recruiting the research participant in the form of a limited number of responses to the research invitation. This changed the sampling method from voluntary response sampling to snowball sampling, influenced research methodology and changed the data collection tool. As a result, the current research findings centered on a single course and were drawn on the experience of only 10% undergraduate IS students involved in the course. Although, the research revealed the valuable insights about the

entrepreneurship course from the experience of individual students, it will be necessary to conduct focus group discussions to obtain more in-depth knowledge about the course impact. Secondly, in the Kazakhstani context, private universities have more autonomy than national and state universities, and their program curriculum can vary. This difference in structure means that course students may experience different outcomes from the entrepreneurship course depending on university type and location. In this sense, the study results cannot be extended to a broader population due to the limited sample size and unique characteristics of the case. Therefore, further investigation is suggested to consider the impact of entrepreneurship education in the different cultural and educational contexts and estimate the experience of a larger sample size by both qualitative and quantitative methods.

Last, this research observes students' progress immediately after completing the course. Research suggests that further investigation focuses on a document analysis and longitudinal study to provide a more reliable evaluation of program effectiveness.

Suggestions

This section outlines the suggestions for future research, taking into consideration the research context and limitations. First, it concerns the investment issue, which is essential for the preparation of the startup ecosystems and program components within entrepreneurship education. While the government granted necessary investment in the facilities for venture development (university technoparks, Astana hub, coworking centres, and others), the research findings suggest investing in educational crisis management, preparation of entrepreneurship mentors, and establishment of collaborative networks among young entrepreneurs. Second, the

challenges experienced by students in the emergent transition to online learning revealed the need for the introduction of digital business methods and promotion of e-skills within the course content. Notably, program moderators may consider improving course enrollment, educational content, and the course assessment criteria (e.g., teamwork assessment). Next, the program content should provide a deeper understanding of public policy, entrepreneur constraints, business financing, and capital arrangement mechanisms. The course recommended incorporating "seed capital days" in the core curriculum to facilitate the introduction of the product to the marketplace and investors. As a result, these measurements will foster competency-based learning and differentiate the program's outcomes from traditional entrepreneurship classrooms.

Finally, the important advantage is that the research evaluated the program outcomes during the emergency of COVID-19 and the implementation of online learning. While this case offered an opportunity to explore the program's peculiarities during turbulent times, there is the necessity for the framework that defines the common and specific features of the entrepreneurship education program in the Kazakhstani context. Therefore, this research suggests comparing the impact of online and offline learning formats on entrepreneurship education curriculum and students' competencies.

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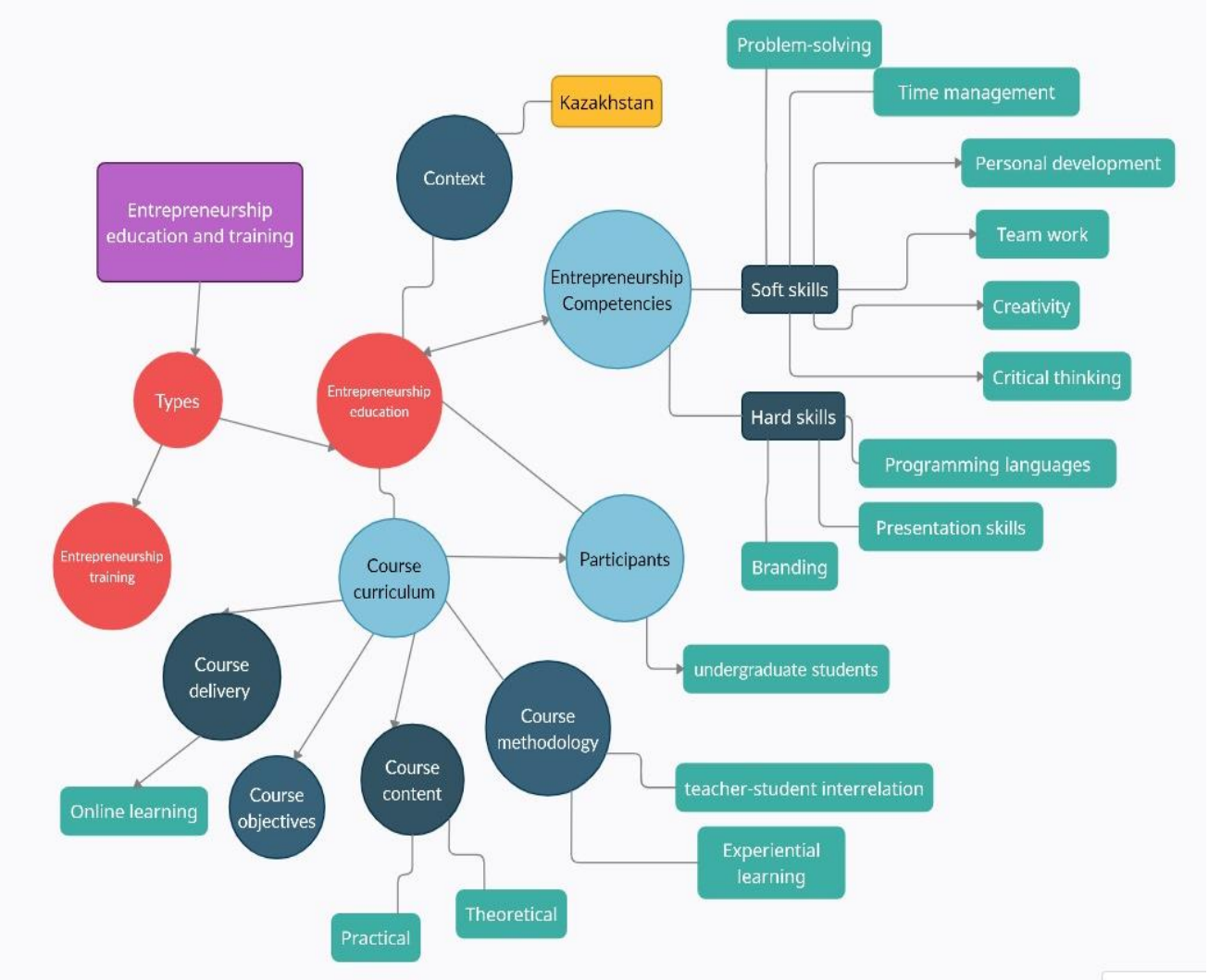
Appendix A

Conceptual Framework

This conceptual framework was adapted from Bacigalupo et al. (2016) and Valerio et al. (2014) to the Kazakhstani context and the current research purpose.



Appendix B

Interview Protocol

Date: _____

Participant code:_____

Interview components:

- Greeting the participants and thanking them for cooperation and collaboration
- Informing the issues of confidentiality, risks, and benefits
- Informing the duration
- Informing how the interview will be conducted, including audio recording
- Asking if the participants have any questions
- Interview itself
- Saying goodbye

The Semi-structured interview questions for students (one-on-one interview):

INSTRUCTIONS: Good morning (afternoon). My name is Aray Tlekeyeva. First of all, I would like to thank you for joining this research. My research topic focuses on the impact of entrepreneurship education on students' competencies. This study has a semi-structured interview as a data collection tool and will take 30-40 minutes of your time. I will ask about your experience as a student at this course. There are no right or wrong, or desirable or

unwanted answers. I would like you to feel comfortable saying what you really think and how you feel.

TAPE RECORDER INSTRUCTIONS If you don't mind, I'll be recording our conversation. The purpose of this is so that I can get all the details, but at the same time be able to have an attentive conversation with you. I assure you that all your comments will remain confidential. I will compile a report that does not include links to individuals.

PREAMBLE / AGREED FORMS OF INSTRUCTIONS Before we get started, please take a few minutes to read this consent form (read and sign this consent form). (Consent Form / R Party Preamble). (After R returns the preamble/consent form, turn on the tape recorder.)

Interview question outline:

1. Can you introduce yourself and tell me about yourself? Have you ever taken an Entrepreneurship training?
2. What do you think of the course program? How would you describe your experience with the Entrepreneurship course?
3. What are the benefits that you have experienced with this course?
4. How satisfied are you with the amount of acquired knowledge?
5. What aspects of online learning have you found difficult and challenging?
6. Describe your role within the team
7. What conditions does the university provide to support the development of your entrepreneurial skills?

8. What specific activities and projects have you found useful in developing the final product?
9. Skills:
    - What skills do you think were important to your startup/end product development and successful completion of the Entrepreneurship course?
    - Could you describe the changes in your ability to work with others since the beginning of the course?
    - Could you describe the changes in your ability to take risks since the start of the course?
    - Could you describe the changes in your ability to manage resources (people, time, product, etc.) since the beginning of the course?
    - Could you describe the changes in your ability to generate new ideas since the beginning of the course?
10. Would you like to continue your development as an entrepreneur?
11. What other skills do you need to develop to become a successful entrepreneur?
12. What specific learning strategies, approaches, and tools can be changed in the structure of the program?
13. What would you suggest to improve this program?

Appendix C

Informed Consent to Participate in Research

The role of an entrepreneurship education in developing student's entrepreneurship competencies: a case study of an Almaty private university

You are invited to participate in a research study conducted by Aray Tlekeyeva, who is a graduate student at Nazarbayev University. You are being asked to participate in this study because you are enrolled in the course Entrepreneurship.

Your participation in this study is entirely voluntary. Therefore, you have a right to join or withdraw the research without any consequences on your study. You may also refuse to answer any interview questions that you do not want to answer. Before deciding whether or not to participate, you should read the information below and ask questions about anything you do not understand.

Purpose of the Study

The purpose of this study is to understand the impact of entrepreneurship education on the development of entrepreneurship skills at one of the Almaty private universities. Filling the gap in the field of entrepreneurship education, this research will focus on students' reflections on changes in their entrepreneurship skills over time and make recommendations on the program's effectiveness. Consequently, it will contribute to the development of the program curriculum as well as the development of commercial projects (program outcomes) within the walls of the Kazakhstani universities.

Procedures

If you volunteer to participate in this study, I will ask you to do the following:

1. You are invited to the online synchronous interview. We will negotiate the time for a synchronous online interview and choose convenient time, date and platform.
2. At the beginning of the interview, I will ask your permission to record the interview. If you refuse to be recorded, I will take notes instead.

Potential Risks And Discomforts

This research is considered as "no more than minimal risk" as it does not harm research participants in mental and physical aspects more than they experience on a daily basis. You may feel uncomfortable when sharing your self-reflection with the researcher and/or giving your critical comments on course effectiveness. However, your response will not be disclosed to third parties, and even the instructor will not know who has participated or what their answers are. The researcher expects that any risks, discomforts, or inconveniences will be minor and not likely to happen. If discomforts become a problem, you may discontinue your participation.

Potential Benefits to Subjects and/or to Society

There are several indirect benefits from the participation in the research both for the students and larger society. First of all, it allows you to track the progress throughout the course and contribute to the program development. Secondly, understanding the effect of the course curriculum on the development of students' skills will help to contribute to advancing the content and methodology in the field of teaching Entrepreneurship. The final outcome

from this research will add new knowledge to this interdisciplinary field in the context of Kazakhstan and support the venture development within universities.

Compensation for Participation

You will not receive any payment or other compensation for participation in this study. There is also no cost to you for participation.

Confidentiality

Confidentiality will be maintained by coding data and using no identifying information in the final product. I will not use your name in any of the information I get from this study or in any of the research reports. When the study is finished, I will destroy the list that shows which code number goes with your name.

I also may use the information from this study in a way that I think is best for publication or education. Any information I use for publication will not identify you individually.

Before the online interview, I will organize a private space without possibility of others discern your identity. The interview will be recorded with your permission. If you refuse to be recorded I will take notes. The video recording that I make will not be viewed by anyone outside the study unless I have you sign a separate permission form that allows me to use them. All collected data will be deleted after successful submission of this thesis work to the Nazarbayev University Repository.

If you agree to participate in this study, please sign this consent _____

(Signature)

Appendix D

Sample transcript of the interview

Date: 20.01.2021

Code: Participant 3

1. **Can you introduce yourself and tell me about yourself ? Have you ever had training on entrepreneurship or previous experience in doing business?**

Hello! I am a third-year student, majoring in Information Systems, Faculty of Engineering. In our third year, I chose Entrepreneurship in Information systems, it was just interesting what could be there in general, course program and practical tasks. I have no previous experience in doing business. Before this course, I did not know anything about leading my own enterprise. However, my parents tried to do the business before I was born, in the 1990s-2000s. Well, those times many people were engaged in trade. Looking at the experience of others, my parents also tried to do business, but they didn't succeed. Well, from the relatives, my uncle started doing small trade when he was still a student. Then he was selling fast food, but now he has a jeans store. However, he does not live nearby, not in Kazakhstan, but in Russia.

2. **What do you think of the course program? How would you describe your experience with the Entrepreneurship course?**

Well, in general, the course was interesting. In fact, there were moments that we reviewed our previous knowledge and gained new perspectives on our major program. This

course helped me to do the assignments differently due to some aspects of the course such as teamwork and establishing a connection among the team members. We just were not lucky, we took this course during the pandemic, and so it seems to me it would be much more fun there in life with the team. I think it would be much cooler if we gathered together somewhere in a cafe and discussed our plans in a real engaging atmosphere.

3. What benefits did you experience on this course?

I started learning about enterprise development by reading books and scratching the information from other sources like the Internet and people. Moreover, I gained some experience of managing the project and team. From the theoretical part of the course, I can highlight some materials on writing the business plan.

4. How satisfied are you with the amount of knowledge gained?

Well, actually, I wasn't really satisfied with the course because we had to complete some tasks completely on our own. That is, we have no experience, and the instructor did not try to explain us or give clear instructions. We just did our project by finding information on the Internet. During the course our assignments and projects were assisted by the teacher assistants who are the same year as we are, and study at our specialty. I thought that entrepreneurship is such a course that would provide something new by completing interesting tasks, inventing and selling our product. Well, at the beginning, we started the course with an idea to create an application for supermarkets. I even learned how to implement new features, and it was very difficult to implement. If initially the instructor supported our idea and when I showed my presentation, he said that everything is okay. Then when I presented it to the

investors, investors told me that our team has many things for improvement, the project is not finalized and everything turned out to be really bad.

5. Describe your role in the team

Before dividing roles within the team, I searched for the positions that start-up teams need to have in order to develop a project. I found that there are programmers, designers and project managers. I can say that my role was a project manager, because I was working on conducting the survey, helping to marketing in an Instagram. It seems to me that project managers must understand everything that is connected to the product because he creates a proposal and business plan.

At the beginning of the project, we had burning desires to do the start-up, and motivated each other that we should try. Then we had such a day at the university, when we could present our startup to the public and investors. When it was time to make a presentation in front of the investors, other two students shared their own ideas. As a presenter of our team, I just sat and did not speak because I understood that we had nothing. Then I understood how we needed to move further, but it was already late.

6. What conditions does the university provide to support the development of your entrepreneurial skills?

Since we were learning online, university could not provide the support to our development as entrepreneurs. We only had Seed Capital Day for presenting our products to other teams and investors.

7. What specific activities and projects did you find useful in developing the final product?

I found a company that makes an offer for advancing their system. I left a request where we described that we have such an idea and I'm just wondering how to implement it. I got a call from them, and shared our intention to create an application so that it can scan goods. The company representative answered me that it is very difficult, and some critical questions to evaluate the potential of our product and team. As a result, the idea seemed to be complex, and our resources were limited. We just developed our product in its simpler way than it was planned initially. However, this experience helped me to step out of my comfort zone, communicate with company representatives and negotiate with my team on our further plans.

8. Skills:

a) What skills do you think were important to your startup / product development and successful completion of your entrepreneurship course?

You need to implement self-learning strategies so that you can learn material that you do not understand. This will help to figure out new insights, and read more about the issue you are most interested in. It is not just reading books on entrepreneurship, because one thing you learn as the theory cannot be applied to some circumstances.

I think it is the role of a project manager, who needs to understand the programming process and know how to communicate with his team. Moreover, the project manager should motivate his team to work together and develop their strong sides..

b) Could you describe the changes in your ability to work with others since the beginning of the course?

I was a project manager and was always ready to help my team. Even if I don't understand some processes I always tried to support my team members..

c) ***Could you describe the changes in your ability to take risks since the beginning of the course?***

I can say that I am a person who takes a risk in critical moments or out of curiosity. In my case, the communication with the company representatives was a new experience that gave me some confidence. Now, I can directly text and call the companies if I have questions on implementing some of my ideas.

9. Would you like to continue your development as an entrepreneur?

Yes, I think that I would like to be an entrepreneur in the near future. However, first I would like to gain more experience as a project manager outside the university..Therefore, I am preparing my resume for the internship position as a project manager. Also, I would like to learn more about the profession and role of project manager by attending additional courses and seminars. And one local company can provide a great opportunity to learn more experience in this profession. And I'll see what soft skills or hard skills are needed there, for example, for this profession, I think I will like it.

10. What specific learning strategies, approaches and tools can be changed in the program structure?

Maybe adding more interaction with companies, having mentors from previous cohorts, and clear instruction on the steps and specifics of developing startups.

11. What would you recommend to improve this program?

It seems to me that the program needs to reevaluate the qualification of the teacher for this course. If the instructor made clear lectures, answered our questions, conducted seminars accordingly. and taught us how to do a startup, it would be much better. For example, young people like us have a lot of ideas for developing startups, but we do not know moments of dealing with idea creation and evaluation, meeting with investors, and selling our goods. That is, first, the instructor needs to help find the right idea, then develop it correctly. Well,there are also moments when the instructor forgot to tell us the deadline and there were some disputes with the students. Although working with the team was a pleasure, mostly negative is the misunderstanding by the teachers.